



# *References*

- ALI, S. and DIVAKARA RAO, V. (1980) Geochemistry and origin of acidic rocks of Shimoga, Karnataka, India. Jour. Geol. Soc. India, v.21, pp.91-97.**
- ANANTHA IYER, G.V. and VASUDEV, V.N. (1979) Geochemistry of the Archaean metavolcanic rocks of Kolar and Hutti gold fields, Karnataka, India. Jour. Geol. Soc. India. v.20, pp.419-432.**
- ANANTHA IYER, G.V. and VASUDEV, V.N. (1980) REE geochemistry of metabasalts from Kolar and Hutti gold bearing volcanic belts, Karnataka craton, India. Jour. Geol. Soc. India. v. 21, pp.603-604.**
- ANDERSON, J.L. and ROWLEY, M.C. (1981) Synkinematic intrusion of peraluminous and associated metaluminous granitic magmas, Whipple Mountains, California. Can. Min., v.19, pp.81-101.**
- ANHAEUSSER, C. R. and ROBB, I. J. (1980) Regional and detailed field and geochemical studies of Archaean trondhjemitic gneisses, migmatites and greenstone xenoliths in the southern part of Barberton Mountain land, South Africa. Precamb. Res., 11, pp.373-397.**
- ANHAEUSSER, C.R., MANSON, R., VILJOEN, M.J. and VILJOEN, R.P. (1969) Reappraisal of some aspects of Precambrian field geology. Bull, Geo. Soc. Amer., v. 80, pp.2175-2200.**
- ARMBRUSTMACHER, T.J. (1977) Geochemistry of Precambrian mafic dykes, Central Bighorn Mountains, Wyoming. Precam. Res., v.4, pp.13-38.**
- ARTH, J. G. and BARKER, F. (1976) Rare-earth partitioning between hornblende and dacitic liquid and implications for the genesis of trondhjemitic tonalitic liquids. Geology, v.4, pp.534-536.**
- ARTH, J.G. and HANSON, G.N. (1975) Geochemistry and origin of the early prechambrian crust of North-Eastern Minnesota. Geochim. Cosmochim. Acta., v.39, pp.325-362.**
- AYRES, L.D., THURSTON, P.C., CARD, K.D. and WEBER, W. (1985) Archaean supracrustal sequences: An introduction and perspective. Geol. Assoc. Canada Spec. Pap. No. 28, pp.1-5.**
- BABAIAH, P.B. (1994) Evolution of the Ramagiri granite-greenstone terrain, Anantapur District, Southern India. Unpublished Ph.D. Thesis, S.V. University, Tirupati.**
- BALAKRISHNAN, S., HANSON, G.N. and RAJAMANI, V. (1990) Pb and Nd isotope constraints on the origin of high Mg and tholeiitic amphibolites, Kolar schist belt, southern India. Contrib. Mineral.Petrol., v.107, pp.272-292.**

- BALAKRISHNAN, S. and RAJAMANI, V. (1987)** Geochemistry and petrogenesis of granitoids around Kolar schist belt: constraints for crustal evolution in Kolar area. *Jour. Geol.*, v.95, pp. 219-240.
- BALLAL, N.R.R. (1975)** Geology of Pamidi and Penukonda-Ramagiri schist belts and surrounding Archaean gneisses and granites, Anantapur district, Andhra Pradesh. *Geol. Surv. India Misc. publ.*23 (1), pp. 97-104.
- BALASUBRAHMANYAM, M.N. (1978)** Geochronology and geochemistry of Archaean tonalitic gneisses and granites of South Kanara District, Karnataka state, India. In: B.F.Windley and S.M. Naqvi (Eds), *Archaean Geochemistry*, Elsevier, Amsterdam, pp.59-77.
- BALAYERIKALA REDDY, N., PRASAD, K.S.S. and HANUMANTHU, R.C. (2006)** Petrogenesis of amphibolites from Jallipalli, Anantapur district, Andhra Pradesh, India. *Ind. Mineralogist*, v. 40, No. 1, pp. 39-48.
- BARAGAR, W. R. A. (1965)** Geochemistry of yellow knife volcanic rocks. *Can. Jour. Earth Sci.*, v.3, pp.9-30.
- BARBARIN, B. (1970)** Granitoids: Main petrogenetic classifications in relation to origin and tectonic setting. *Geo. Jour.*, v.25, pp.227-238.
- BARKER, F. and ARTH, J. G. (1976)** Generation of trondhjemitic-tonalitic liquids and Archaean bimodal trondhjemite basalt suites. *Geology*, v. 4, pp.596-600.
- BARKER, F. and PETERMAN, Z.E. (1974)** Bimodal tholeiitic dacitic magmatism and the early Precambrian crust. *Precam. Res.*, v.1, pp.1-12.
- BARTH, T. F. W. (1962)** *Theoretical petrology*, second ed. Wiley, Newyark, 387p.
- BARTH, T.F.W. (1952)** The differentiation of a composite aplite from the pibbil of islands, Alaska. *Amer.Jour. Sci.*, Bowen, vol: 27-36.
- BHASKAR RAO, Y. J. (1980)** Geology and geochemistry of metavolcanics and associated rock types from Bababudan belt and the late Archaean crustal evolution in Karnataka craton. Ph.D. Thesis (Unpublished), Osmania University, 256 P.
- BECKINSALE, R.D. (1979)** Granite magmatism in the tin belt of South-east Asia – In: M.P. Artherton and J. Tarney, (Eds). *Origin of granitic batholiths*. Shiva Pub. Ltd., pp.34-44.
- BINNS, R. A. (1966)** Granite intrusions and Regional Metamorphic rocks of Permian age from the Wongwibinda District, Northeastern New South Wales. *Jour. Proc. Roy. Soc. N.S.W.*, v.99, pp.5-36.

- BHATTACHARJI, S. (1986)** Asthenospheric upwelling, lineament, reactivation, magmatic episodes and ore mineralization in Proterozoic Basin, Evolution on the Archaean Indian Shield. *Int. Basement Tectonics Association*, v.5, pp. 183-200.
- BHATTACHARJI, S. (1987)** Lineaments and igneous episodes in the evolution of intracratonic Proterozoic basins on the Indian Shield. (Ed.) A.K. Saha, In: *Geological evolution of Peninsular India - Petrological and structural aspects; Recent Researches in Geology* 13, 1-15.
- BHATTACHARYA, S. K. (1975)** Stratigraphic and structural investigations of the Dharwar schist belt in Veldurti-Kurnool-Gadwal section in Kurnool and Mahaboob nagar district, Andhra Pradesh, GSI Mis. Publ. No. 23 ,pp.105-113.
- BOSE, R. M. (1989)** A quantitative chemical classification of the Igneous Rocks. *Indian Minerals*, v.43, No.1, pp.47-55.
- BOUHALLIER, H., CHARDON, D. and CHOUKROUNE, P. (1995)** Strain patterns in Archaean dome and basin structures: the Dharwar craton (Karnataka, south India). *Earth Planet. Sci. Lett.*, v.135, pp. 57-75.
- BOWEN, N. L. (1928)** *The evolution of igneous rocks*: Princeton Univ. Press, Princeton, New Jersey, 332p.
- BRIDGEWATER, D., COLLERSON, K. D. and MYERS, J.S. (1978)** The development of the Archean gneiss complex of the North Atlantic Region -In: *Evolution of the Earth's crust* D.H.Tarling(Ed) Academic press, pp.19-63.
- BROWN, G. C. (1977)** *Mantle origin of Cordilleran granites*. *Nature, London*. v.265, pp.21-24.
- BRUCE FOOTE, R. (1889)** Dharwar System, the chief auriferous series in south India. *Rec. Geol. Surv.India.*, 22 (7): 17-39.
- BUHL, D., GRAUERT, B. and RAITH, M. (1983)** U-Pb zircon dating of Archaean rocks from the south Indian craton results from the amphibolite to granulite transition zone at Kabbal quarry, Southern Karnataka. *Fortschritte fur Mineralogie*, v.61, pp.43-45.
- CALLOT, J.P. and GEOFFREY, L. (2004)** Magma flow directions in the east Greenland dyke swarm inferred from studies of anisotropy of magnetic susceptibility: magmatic growth of a volcano margin. *Geophys. Jour. Int.*, v. 159, pp.816-830.
- CANN, J. R. (1971)** Major element variations in ocean floor basalts. *Royal Soc. London. Philos. Trans. Ser. A*. 268, pp.495-505.
- CARMAN, J. H. and TUTTLE, O. F. (1963)** *Geol. Soc. Amer., Abstracts Ann. Meet*, v.29A.

- CHAPPEL, B.W. and STEPHENS, W. E. (1988)** Origin of infrastructural (I-type) granite magmas. *Trans. Roy. Soc. Edin. (Earth Sciences)*, v.79, pp. 71-86.
- CHAPPEL, B.W. and WHITE, A. J. R. (1974)** Two contrasting granite types. *Pacific Geol.*, v.8, pp.173-174.
- CHAYES, F. (1952)** The fine grained calc alkaline granites of New England. *Jour. Geol.*, v.60, pp.207-254.
- CHETTY, T.R.K. (1989)** Geologic remote sensing in Precambrian terrains an illustration from South India proceedings of the seminar on "Advances in Geophysical Research in India, held during 8-10 Feb., 1989. Indian Geophysical Union, Hyderabad.
- CHURCH, B.N. (1975)** Quantitative classification and chemical comparison of common volcanic rocks. *Geol. Soc. of Am. Bull.*, v. 86, pp.257-263.
- COLLERSON, K. D. and BRIDGEWATER, D. (1979)** Metamorphic development of early Archaean tonalitic and trondhjemitic gneisses, Saglek area, Labrador. In *Trondhjemites, Dacites and related rocks* (Ed) F. Barker. Elsevier Pub.Co. pp.205-265.
- CONDIE, K. C. (1985)** Secular variation in the composition of basalts an index to mantle evolution. *Jour.Petrol.*v.26, pp.545-563
- CONDIE, K.C. (1981)** Archaean greenstone belts (*Developments in Precambrian Geology*). Elsevier, Amsterdam, v.3, 358 P.
- CONDIE, K. C. (1976)** Plate tectonics and crustal evolution, Pergamon Press, 288p.
- CONDIE, K. C. and TIMOTHY, P.M. (1982)** Geochemistry of Proterozoic volcanic and granitic rocks from the Gold Hill – Weeler Peak area, Northern New Mexico. *Precam. Res.*, v.19, pp. 141-166.
- CONDIE, K.C. BARSKY, C.K. and MULLER, P.A. (1969)** Geochemistry of Precambrian diabase dykes from Wyoming. *Geochim. Cosmochim. Acta.*, v.33, pp.1371-1388.
- COOLS, H.J. (1941)** Fluidization process, in A.Homes. *Physical geology*, ELBS Pub.Delhi. pp.182-200.
- CRAWFORD, A.R. (1969)** Reconnaissance Rb-Sr dating of the Precambrian rocks of the Southern Peninsular India. *Jour. Geol. Soc. India.*, v.19, pp.117-167.
- CRAWFORD, A.R. and COMPSTON, W. (1973)** The age of the Cuddapah and Kurnool Systems, South India. *Jour. Geol. Soc. Australia.*, v. 19, No.4, pp.453-464.

- DAVIS, A., BLACKBURN, W. H., BROWN, N. R. and ELMANN, W. D. (1978)** Trace element geochemistry and origin of late Precambrian to Cambrian greenstone of Appalachian Mountain Univ. of California, 51p.
- DEPAOLO, D. J. (1981)** A Neodymium and Strontium isotopic study of the Mesozoic calc-alkaline granitic batholiths of the Sierra Nevada and Peninsular Ranges, California. *Jour. Geophys. Res.*, v.86, pp.10470-10488.
- DEVARUJU, T.C. and SADASHIVAIAH, M.S. (1996)** Dolerite dykes of Satnur Halguru area, Mysore State, Karnatak Univ. *Jour. Sci.*, v. XI, pp.89-128.
- DHANARAJU, R., VARMA, H.M., PADMANABHAN, N. and MAHADEVAN, T.M. (1982)** I - and S-type classification of Precambrian granitoids of Southern India and its possible relevance to mineral exploitation. In: SM. Naqvi and J.J.W. Rogers (Eds), *Precambrian of South India. Geol. Soc. India.*, pp.389-400.
- DHANARAJU, R. and KRISHNA RAO, J.S.R. (1972)** Chemical distribution between replacement and magmatic granitic rocks. *Contrib. mineral Petrol.*, v.35, pp.169-172.
- DIDIER, J., DUTHOU, J.L. and LAMEYRE, J. (1982)** Mantle and Crustal granites; genetic classification of orogenic granites and the nature of their enclaves. *Jour. Volc. and Geotherm Res.*, v.14, pp.125-132.
- DRESCHER KHADEN, F.K. (1948)** *Die Felspat-Quartz-Reaktiosge-Fuegeder Granite and gneiss und ihre genetische Bedeutung*, Springer, Berlin.
- DRURY, S. A. (1984)** A Proterozoic intracratonic basin dyke swarm and thermal evolution in South India. *Jour. Geol. Soc. Ind.*, v.25 (7), pp. 437-444.
- DRURY, S. A. (1982)** Geochemistry of metavolcanic rocks from the Holenarasispur and Shigegudda volcano sedimentary belts of Karnataka, South India. *Precamb. Res.* v.19, pp.119-139.
- DRURY, S. A. (1981)** Geochemistry of Archaean metavolcanic rocks from the Kundermukh area, Karnataka. *Jour. Geol. Soc. India.*, v.22, pp.405-416.
- ELLIS, J.D. and THOMPSON, A. B. (1986)** Subsolvus and partial melting reactions in the quartz-excess  $\text{CaO} + \text{MgO} + \text{Al}_2\text{O}_3 + \text{SiO}_2 + \text{H}_2\text{O}$  system under water excess and water-deficient conditions to 10 kb; some implications for the origin of peraluminous melts from mafic rocks. *Jour. Petrol.*, v.27, pp.91-121.
- ERNST, R.E. and BUCHAN, K. L. (1997)** Giant radiating dyke swarms: their use in identifying Pre-Mesozoic large igneous provinces and mantle plumes. In: Mahoney and M.F. Coffin(Eds), *Large igneous Provinces: Continental, Oceanic and Planetary flood volcanism. Amer. Geophys. Union, Geophys. Monogr.*, 100, pp. 297-333.

- EVANS, B.W. and LEAKE, B.E. (1960)** The composition and origin of the stripped amphibolites of Connemera, Ireland. *Jour. Petrol.*, 1 : 337-368.
- FAIRBAIRN, H.W., SCHLECHT, W.G., STEVENS, R.E., DENNEN, W.H., AHRENS, L.H. and CHAYES, F. (1951)** A Co-operative investigation of precision and accuracy in chemical, spectrochemical and modal analysis of silicate rocks. *Bull. U.S. Geol. Surv.*, 980.
- GALER, S. J. G. (1994)** Oldest rocks in Europe. *Nature.*, v.370, pp.505-506.
- GILL, R.C.O. (1979)** Comparative petrogenesis of Archaean and modern low K-tholeiites. A critical review of some geochemical aspects, In: origin and distribution of the elements. Ahrens, L.A. (Ed) Pergaman Press, pp.431-447.
- GIRITHARAN, T.S. and RAJAMANI, V. (1998)** Geochemistry of the metavolcanics of the Hutti-Maski schist belt, South India: Implications to gold metallogeny in the Eastern Dharwar Craton. *Jour. Geol. Soc. India.*, v.51, pp.583-594.
- GLIKSON, A.Y. (1982)** Early Precambrian crust with reference to the Indian shield: An essay. *Jour. Geol. Soc. India.*, v.23, pp 581-603.
- GLIKSON, A.Y. (1976)** Stratigraphy and evolution of primary and secondary greenstones: significance of data from shields of the Southern Hemisphere, In: B.F. Windley (Ed). *The Early History of the Earth*, Wiley, London, pp. 257-277.
- GOLDSCHMIDT, V. M. (1954)** *Geochemistry*, Oxford University press, 730p.
- GREEN, D. H. (1970)** A review of experimental evidence on the origin of Basaltic and Nephelintic magmas. *Phys. Earth Planet. Inter.*, v.3. pp.221-235.
- GREEN, N. L. (1973)** The diagram  $MgO/Al_2O_3$  vs  $(Na_2O + K_2O) / \text{total FeO} + TiO_2$  – A distinct geochemical separation of the calc-alkaline and tholeiitic series. *Canadian Mineralogist*, v.12, 144p.
- GREEN, T. H. (1980)** Island arc and continent-building magmatism – A review of petrogenetic models based on experimental petrology and geochemistry. *Tectonophysics*, v. 63, pp. 367-385.
- GROSS, G. A. (1965)** The geology of iron deposits of Canada: 1. General geology and evaluation of Iron Deposits. *Geol. Surv. Canada, Econ. Geol. Ser. Rep.*, no. 22(1), 181 p.
- HALLIDAY, A. N. and STEPHENS, W.E. (1984)** Crustal controls on the genesis of the 400 Ma Caledonian Granites. *Phys. Earth. Planet. Inter.*, v.35, pp. 89-104.
- HALLS, H. C. (1982)** The importance and potential of mafic dyke swarms in studies of geodynamic processes. *Geo. Soc. Canada.*, v. 9, No.3, pp.145-154.

- HANUMA PRASAD, M., KRISHNA RAO, B., VASUDEV, V.N., SRINIVASAN, R. and BALARAM, V. (1997)** Geochemistry of Archaean bimodal volcanic rocks of the Sandur supracrustal belt, Dharwar Craton, Southern India. *Jour. Geol. Soc. India.*, v.49, pp.307-322.
- HANUMANTHU, R. C., VIJAYA KUMARI, P., SURESH, G. and REDDY, N.B.Y. (2008)** Geology and geochemistry of mafic dyke swarms of Peddavuru schist belt, eastern Dharwar craton, south India. *Gond. Geol. Magz.*, v. 23(2), pp. 145-150.
- HANUMANTHU, R.C. and PADMASREE, P. (2003)** On the origin of metavolcanics and granitoids of Kadiri Schist belt, Anantapur District, Andhra Pradesh. *The Indian mineralogist*, v. 36&37, No. 2&1, pp.31-44.
- HANUMANTHU, R.C. and BABAIH, P.B. (1996)** Origin of granites adjoining Ramagiri schist belt, Anantapur District, Andhra Pradesh. *Jour. Geol. Soc. Ind.*, v.48, pp. 57-63.
- HANSON, E.C., NEWTON, R.C. and JANARDHAN, A.S. (1984)** Pressures, temperatures and metamorphic fluids across an unbroken amphibolite facies to granulite facies transition in Southern Karnataka. In: Kroner, A., Goodwin, A. M. and Hanson, G. N. (Eds), *Archaean Geochemistry*, Springer Verlag, Berlin , pp.161-181.
- HANSON, G. N. and LANGMUIR, C.H. (1978)** Modeling of major elements in mantle-melt systems using trace element approaches. *Geochim. Cosmochim. Acta.*, v.42, pp. 724-741.
- HARPUN, J. B. (1963)** Petrographic classification of granitic rocks Tanganyika by partial chemical analysis. *Rec. Geol. Surv. Tanganyika.*, v.10, pp.80-88.
- HASHIGUSHI, H., YAMADA, R. and INOUE, T. (1983)** Fractional application of low Na<sub>2</sub>O anomalies in footwall acid lava for delineating promising areas around Kosaka and Fukazawa Kuroko deposits, Akita Prefectural Japan. *Econ. Geol. Monograph.*, v.5, pp.387-394.
- HINE, R., WILLIAMS, I.S., CHÄPPEL, B.W. and WHITE, A. J. R. (1978)** Contrasts between I-and S-type granitoids of the Kosciusku batholiths. *Jour. Geol. Soc. Australia*, v.25, pp. 219-234.
- HUBBARD, F. M. (1966)** Myrmekite in charnockite from Southwest Nigeria. *Amer. Min.*, v.51, pp.762-773.
- HUPERT, H. E. and SPARKS. R. J. S. (1985)** Cooling and contamination of mafic magmas during ascent through continental crust. *Earth Planet. Sci.Lett.* v.74, pp.371-386.



- HUGHES, C. J.** (1982) *Igneous Petrology*. Elsevier Scientific Publishing Company, Amsterdam, 551p.
- HYNDMAN, D. W.** (1972) *Petrology of igneous and metamorphic rocks*. Mc Graw-Hill Book Co., New York, 533p.
- IRVINE, T.N. and BARAGAR, W. R. A.** (1971) A guide to the chemical classification of the common volcanic rocks. *Jour. of Geol. Soc. of Canada.*, v.8, pp.131-148.
- IRVING, A.J. and GREEN, D. H.** (1976) Geochemistry and petrogenesis of the newer basalts of Victoria and South Australia. *Jour. Geol. Soc. Australia*, v. 23, pp.45-66.
- ISHIHARA, S.** (1977) The magnetite series and ilmenite-series granitic rocks. *Ming. Geol.*, v. 27, pp.293-305.
- ISLAM, R., PUROHIT, K.K. and THAKUR, V.C.** (1991) The birth history of two granitic plutons of the Bhilangna valley of Garhwal Himalaya: a geochemical approach. *Jour. Geol. Soc. India*, v.38, pp. 23-35.
- JAYANANDHA, M., MOYENJ.F, MARTIN, H., PEUCAT, J.J, AUVRAY, B. and MAHABALESWAR, B.** (2000) Late Archaean (2550-2520 Ma) juvenile magmatism in the eastern Dharwar craton , southern India: constraints from geochronology, Nd-Sr isotopes and whole rock geochemistry .*Precam.Res.* v.99, pp. 225-254.
- JENSEN, L.S.** (1976) A new method of classifying sub-alkalic volcanic rocks, Ontario Division of Mines, Misc. Paper No.66.
- JETTI, J.** (1983) Geological and geochemical investigations on the central part of the Ramagiri schist belt, Anantapur district, Andhra Pradesh. Unpublished Ph.D., Thesis, Osmania University, Hyderabad.
- JOLLY, W. T.** (1975) Sub division of the Archaean lavas of the Abitibi area, C'anda, from Fe-Mg-Ni-Cr relations. *Earth planet. Sci. Lett.*, 27:200-210.
- KAUL, B. L.** (1973) Systematic geological Mapping in parts of Madanapalle Taluk, Chittoor District. , GSI UnPub. Rep., pp. 1-10.
- KAUL, B.L. and BHATTACHARAYA.** (1972) Systematic Geological mapping in parts of Kadiri – Rayachoty and Madanapalle Taluks, Anantapur ,Cuddapah and Chittoor district, A. P.GSI, Unpub. Report. pp. 1-15.
- KENNEDY, W. Q.** (1933) Trends of differentiation in basaltic magmas. *Amer Jour. Sci.*, v.5, pp.239-256.

- KING, W.** (1872) On the Cuddapah and Kurnool Formations in Madras Presidency. Mem. Geol. Surv. India, 8.
- KLEEMAN, A.W.** (1967) The origin of granitic magmas. Jour. Geol. Soc. Australia, v.12, pp.35-52.
- KOLBE, P. and TAYLOR, S.R.** (1966) Major and trace element relationships in granodiorites and granites from Australia and South Africa. Contrib. Mineral. Petrol., v. 12, pp.202.
- KRISHANAN, M. S.** (1968) Geology of India and Burma. Higginbothams (pvt.)Ltd., 604p.
- KRISHNAMURTHY, M.** (1963) Gold mining Industry in India. Geol. Soc. India. Mem.1.
- KROGSTAD, E. J., HANSON, G. V. and RAJAMANI, V.** (1992) Archaean sutures marked by schist belts, East Dharwar craton, South India. EDS Trans. Amer. Geophy.Union, Spring meeting; v.73, pp.332.
- KRONER, A., PUNSTINEN, K. and HICKMAN, M.** (1981) Geochronology of an Archaean Tonalitic-gneiss dome in Northern Finland and its relation with an unusual overlying volcanic conglomerate and Komatiitic Greenstones. Contrib. Min. Petrol., v.76, pp.33-41.
- KUNO, H.** (1996) Lateral variation of basalt magma across continental margins and Island arcs. Can. Geol. Surv. Paper, 66-15, 317-336.
- LA FLECHE, M.R., DUPUY, C. and DOSTAL, J.** (1992) Tholeiitic volcanic rocks of Late Archaean Blake River Group, Southern Abitibi greenstone belt origin and geodynamic implications. Can. Journ. Earth Sci., v.29, pp.1448-1458.
- LAMBERT, I. B. and WYLLIE, P. J.** (1970) Melting in the deep crust and upper mantle and the nature of the low velocity layer. Physics Earth and Planetary Interiors, 3, pp.316-322.
- LATYPOV, R., CHISTYAKOVA, S. and ALAPIETI, T.** (2007) Revisiting problem of chilled margin associated with marginal reversals in mafic-ultramafic intrusive bodies. Lithos, v. 99, pp. 178-206.
- LEAKE, B. E.** (1964) The chemical distinction between ortho- and para- amphibolites. Jour. Petrol., 5:238-254.
- LEAKE, B. E., BROWN, G. C. and HALLIDAY, A. N.** (1980) The origin of granite magmas: a discussion. Jour. Geol. Soc. London., v.137, pp.93-97.
- LE BAS, M.J., LE MAITRE, R.W. and STRECKEISEN, A. L.** (1986) A chemical classification of volcanic rocks based on total alkali-silica diagram. jour. Petrol., v. 27, pp.745-750.

- LE MAITRE, R. W.** (1976) The chemical variability of some common igneous rocks. *Jour. of petrol.*, v.17, pp. 589-637.
- LEUTWEIN, F.** (1941) Geochemie und vorkommendes Vanadiums. *Ber. Freiburger. Geol. Ges.*, 18:73.
- LUNDERGARDH, Per.H.** (1946) Rock composition and development in central Roslagen, Sweden. *Arkiv.Kemi. Min. Geol.*, 23A:1.
- MACDONALD, G. A.** (1968) Composition and origin of Hawaiian lavas in: Coat, R.R., Hay, R.L. and Anderson, C.S. (Eds), *Studies in volcanology. Geol. Surv. Prof. Paper 680-B*, P. 10.
- MALLIKARJUNA RAO, J., BHATTACHARJI, S., RAO, M.N. and HERMES, O. D.** (1995) <sup>40</sup>Ar-<sup>39</sup>Ar ages and geochemical characters of dolerite dykes around the proterozoic Cuddapah Basin, South India. *Mem. Geol. Soc. India*, No.33, pp.307-328.
- MARMO, V.** (1971) *Granite Petrology and the granite problem*. Elsevier, Amsterdam, 244p.
- MARMO, V.** (1955) The petrochemistry of some pre-cambrian granites of West Africa and a petrochemical comparison with the svecofennide granites of Finland. *Amer. Jour. Sci.*, v.253, pp. 391-417.
- MARTIN, H.** (1987) Petrogenesis of Archaean trondhjemites, tonalites and granodiorites from eastern Finland; major and trace element geochemistry. *Jour. of petrol.*, v.28, pp. 921-953.
- MARTIN, R. F. and BOWDEN, P.** (1981) Peraluminous granites produced by rock fluid interaction in the Ririwai nonorogenic ring complex, Nigeria: Mineralogical evidence. *Can. Min.* v.19, pp.65-82.
- MANSON, V.** (1967) Geochemistry of basaltic rocks, major elements. In: *Basalts* (Eds) H.H. Hess and A. Poldervaart, v.1, pp.215-269.
- Mc GREGOR, V.R.** (1979) Archaean grey gneiss and the origin of continental crust: Evidence from the Godthab region, West Greenland, In: Barker, F. (Ed.) *Trondhjemite, Dacite and related rocks*. Elsevier, Amsterdam, pp. 169-200.
- MEENAL MISHRA and RAJAMANI, V.** (1999) Significance of the Archaean bimodal volcanics from the Ramagiri Schist Belt in the formation of Eastern Dharwar Craton. *Jour. Geol. Soc. Ind.*, v.54, pp.563-583.
- MIYASHIRO, A. and SHIDO, F.** ( 1975) Tholeiitic and calc-alkaline series in relation to the behaviour of titanium, vanadium, chromium and nickel. *Amer. Jour. Sci.*, v.275, pp.265-267.

- MONARD, J. R. (1983)** Evolution of sialic terrains in the vicinity of the Holenarsipur Belt, Hassan District, Karnataka, India. In: S.M. Naqvi and J.J.W. Rogers (Eds.). Precambrian of South India. Geol. Soc. India, Mem., v.4, pp.343-364.
- MOYEN, J. F. (2000)** Le magmatisme grantique a' la transition Archéen-Protérozoïque: exemple du craton de Darwar, Inde du Sud (Granite de Clopepet et intrusions associées). Ph.D. thesis, Université Blaise Pascal, Clermont-Ferrand, France.
- MULLEN, E.D. (1983)** MnO·TiO<sub>2</sub>·P<sub>2</sub>O<sub>5</sub> : Minor element discriminant for the basaltic rocks of oceanic environment and its implication for petrogenesis. Earth Planet. Sci., Lett. 62, pp. 53-62.
- MULLER, P. A. and ROGERS, J. J. W. (1973)** Secular chemical variation in a series of Precambrian mafic rocks, Beartooth Mountains, Montana and Wyoming. Geol. Soc. Amer. Bull., v. 84, pp. 3645-3652.
- MURTHY, N. G. K. (1995)** Proterozoic mafic dykes in southern Peninsular India: A review. Mem. Geol. Soc. India, v. 33, pp.81-98.
- MURTHY, N. G. K. (1987)** Mafic Dyke Swarms of the Indian Shield, Mafic Swarms, Geol. Assoc. Canada, Special Paper, 34, pp. 393-400.
- MURTHY, N.G.K. (1964)** The traps and dolerites in the Cuddapah Basin. Jour. Indian Geo. Soc. Assoc., v.4, pp. 79-88.
- MURTHY, V.N. and SARMA, K. J. (1992)** Summary of Work done by the GSI group from the minutes of the 3rd meeting of the NWG of the IGCP Project 257 on Precambrian Mafic Dykes (Unpublished).
- MURTHY, Y. G. K., BABURAO, V., GUPTASARMA, D. and RAO, M. N. (1987)** Tectonic, Petro-Chemical and Geophysical Studies of Mafic Dyke Swarms around the Proterozoic Cuddapah Basin, South India. In: Mafic Dyke Swarms (Eds) H.C. Halls and W.F. Fahrig. Geol. Assoc. Canada Spl. Paper, 34, pp. 303-316.
- MYERS, J. S. (1978)** Formation of Banded gneisses by deformation of igneous rocks. Precam. Res. v. 6, pp. 43-64.
- NABELEK, P. I. C., RUSS-NABELEK. and DENISON, J. R. (1992)** The generation and crystallization conditions of the Proterozoic Harney Peak leucogranite, Black Hills, South Dakota, USA: Petrologic and geochemical constraints: Contrib. Mineral. petrol., v. 110, pp. 173-191.
- NAGANNA, C and SHIVA KUMAR, B. S. (1976)** Banded iron formations and the associated rocks of Kudremukh region Karnataka. Proc. Symp. On Geology exploration, mining, mineral processing and metallurgy of ferrous and Ferro alloy minerals. v.1, pp.15-21.

- NAQVI, S. M. (1981)** The oldest supracrustals of the Dharwar Craton. *India Jour. Geol. Soc. India*, v. 22, pp. 458-469.
- NAQVI, S. M. (1976)** Physico-chemical conditions during the Archaean as indicated by Dharwar geochemistry. In: B.F.Windley (Ed). *The early history of the Earth*. Wiley, London. pp. 289-298.
- NAQVI, S. M., and HUSSAIN, S. M. (1973)** Geochemistry of Dharwar metavolcanics and compositions of the primeval crust of the Peninsular India. *Geochim. Cosmochim. Acta.*, v. 37, pp.159-164.
- NAQVI, S.M., DIVAKARA RAO, V., SATYANARAYANA, K. and HUSSAIN, S.M. (1974)** Geochemistry of Post-Dharwar basic dykes and Precambrian crustal evolution of Peninsular India. *Geol. Mag.*, v.111, pp.299-236.
- NAQVI, S. M. and ROGERS, V. (Eds) (1983)** Precambrians of South India. *Geol. Soc. India Mem. No. 4*.
- NAQVI, S.M., SAWKAR, R.H., SUBBA RAO, D.V., GOVIL, P.K. and GNANESWAR RAO.T. (1988)** Geology, geochemistry and tectonic setting of Archaean greywackes from Karnataka nucleus, India. *Precamb. Res.*, v.39, pp.193-216.
- NARAYANA SWAMY, S. (1966)** Tectonics of the Cuddapah basin. *Journ. Geol. Soc. India.*, v.1, pp.33-50.
- NARAYANA SWAMY, S. (1957)** Preliminary report on the Ramagiri gold field. *Geol. Surv. India Report* (unpublished).
- NIELSN, T. F. D. (1978)** The tertiary dikes swarms of the Kangerdlugssuaq area, East Greenland *Contrib. Mineral. Petrol.*, v.67, pp.63-78.
- NOCKOLDS, S. R. and MITCHELL, R. L. (1948)** The geochemistry of some Caledonian plutonic rocks. *Trans. Roy. Soc. Edinburgh*, 51: 533-575.
- NUTMAN, A. P., CHADWICK, B., KRISHNA RAO, B. and VASUDEV, V. N. (1996)** SHRIMP U-Pb zircon ages of acid volcanic rocks in the Chitradurga and Sandur Groups and granites adjacent to the Sandur schist belt, Karnataka. *Jour. Geol. Soc. India*, v. 47, pp.153-164.
- O'CONNOR, J. T. (1965)** A classification for quartz-rich igneous rocks based on feldspar ratios. v. 525-B. pp.79-84.
- O'NIONS, R.K. and PANKHURST, R. J. (1978)** Early Archaean rocks and geochemical evolution of the earth's crust. *Earth plan. Sci. Lett.*, 38:211-236.
- OSTERWALD, F.W. (1955)** Petrology of Precambrian granites in the Northern Bihorn Mountains, Wyoming. *Jour. Geol.*, v.63, pp.310.

- PADMAKUMARI, V.M. and DAYAL, A.M. (1987)** Geochronological studies of some mafic dykes around the Cuddapah Basin, Purana Basins of Peninsular India, *Jour. Geol. Soc. Ind., Mem. 6*, pp.369-373.
- PADMASREE, P. (2001)** Evolution of Kadiri schist belt, Anantapur district, Andhra Pradesh, India. Unpublished Ph.D. Thesis, S.V. University, Tirupati.
- PASCOE, E.H. (1950)** A manual of geology of India and Burma, Vol. 1, Publication of the Government of India Press, Calcutta, India.
- PEARCE, J.A. (1982)** Trace element characteristics of lavas from destructive plate boundaries. In: Thrope, R.S. (Ed.), *Andesites*, John Wiley Sons, Chichester, pp.525-548.
- PEARCE, J.A. and CANN, J.R. (1973)** Tectonic setting of basic volcanic rocks determined by using trace element analysis. *Earth Planet. Sci. Lett.*, v.19, pp.290-300.
- PEARCE, T.H., GORAMAN, B.E. and BIRKETT, T.C. (1975)** The  $TiO_2$ - $K_2O$ - $P_2O_5$  diagram. A method of discriminating between oceanic and non-oceanic basalts. *Earth Planet. Sci. Lett.*, v.24, pp. 419-426.
- PEARCE, J.A. (1976)** Statistical analysis of major element patterns in basalts. *Jour. Petrol.*, v.17, pp.15-43.
- PEATE, D.W., PEARCE, J.A., HAWKESWORTH, C.J., COLLEY, H., EDWARDS, C.M.H. and KEIHIROSE (1997)** Geochemical variations in Vanuatu arc lavas: the role of subducted material and a variable mantle wedge composition. *Jour. Petrol.*, v. 38(10), pp.1331-1358.
- PENG, P., ZHAI, M., ERNST, R.E., GUO, J., LIU, G. and HU, B. (2008)** A 1.78 Ga large igneous province in north China craton: The Xiong'er volcanic province and the north China dyke swarm. *Lithos*, v.101, pp.260-280.
- PICHAMUTHU, C.S. (1962)** Some observations on the structure, metamorphism and geological evolution of Peninsular India. *Jour. Geol. Soc. India.*, v.3, pp.106-118.
- PICHAMUTHU, C.S. (1959)** The significance of clouded plagioclase in the basic dykes of Mysore State, India. *Jour. Geol. Soc. India.*, v.1, pp.68-79.
- PICHAMUTHU, C. S. and SRINIVASAN, R. (1982)** A billion year history of the Dharwar craton(3200 to 2100 m.y. ago). In: S.M. Naqvi and J.J.W. Rogers(Eds), *Precambrians of south India*, Geol. Soc. India,pp.121-141.
- PITCHER, W.S. (1983)** Granite type and tectonic environment. In: Hsu. K. (Ed.) *Mountain building processes*. Academic Press, London, pp.19-40.

- PRINZ, M.** (1967) Geochemistry of basaltic rocks: trace elements in basalts. In: H.H.Hess and A. Poldervaart, Wiley, New York., v.1.
- RADHAKRISHNA, B.P.** (1996) Mineral resources of Karnataka. . Geol. Soc. India. First edition, 471p.
- RADHAKRISHNA, B.P. and VAIDYANADHAN,R.** (1994) Geology of Karnataka. Geol. Soc. India. First edition, 353p.
- RADHAKRISHNA, B.P.** (1983) Archaean granite-greenstone terrain of the south Indian shield. Geol. Soc. India, Mem.4, pp.1-46.
- RADHAKRISHNA, B.P.**( 1976) Two greenstone groups in the Dharwar Craton. Indian Mineralogist. 16, pp.12-16.
- RAJU, K.C.C., KAREEMUDDIN ,Md. and PRABHAKAR RAO, P.** (1979) Operation Anantapur . Geol.Surv. India Misc. Publ. ,47, pp.1-57.
- RAMAKRISHNAN, M.** (1994) Stratigraphic evolution of Dharwar craton. Mines and Geology department Centenary volume, pp.6-35.
- RAMAKRISHNAN, M.** (1981) Nuggihalli and Krishnarajpet belts. In: J.Swaminath and M. Ramakrishnan (Eds). Early Precambrian supracrustals of southern Karnataka. Mem. Geol. Surv. India., v. 112,pp.61-70.
- RAMAKRISHNAN, M., VISWANATHA, M.N. and SWAMINATHI, J.** (1976) Basement - cover relationships of peninsular gneiss with high grade schists and greenstone belts of Southern Karnataka. Jour.Geol. Soc. India. v.7, pp. 97-111.
- RAMAM. P.K. and MURTHY, V.N.** (1997) Geology of Andhra Pradesh. Geol.Soc. India 241p.
- RAMASWAMY, A. and MURTHY, M.S.** (1972) Mymerkite from the charnockite series of Amaravathi, Guntur District, Andhra Pradesh. Jour. Geol. Soc. India. v.13, pp.273-276
- RAO, V.P. and PUFFER, J.H.** (1996) Geochemistry, petrogenesis and tectonic setting of Proterozoic mafic dyke swarms, eastern Dharwar craton, India. Jour. Geol. Soc. India, v.47, pp.165-174.
- REDDY, N.B.Y.** (1989) Anthophyllite-cordierite-sapphirine rock in the northern part of Ramagiri schist belt, A.P. India, Minerals, v. 43, pp.71-72.
- REINHARD, M.** (1931) Universal Drehtisch Methoden, B. Wepf & Co., Basel.
- RINGWOOD, A.E. and GREEN, D.H.** (1966) An Experimental investigations of the gabbro-eclogite transformation and some geophysical implications. Tectonophysics, v. 3, pp. 383-427.

- ROGERS, J. J. W** (1986) The Dharwar craton and the assembly of Peninsular India. *Jour. of Geol.*, v. 94, pp. 129-144.
- ROGERS, J.J.W., ELAINE, J., CALLAHAN, KRISTIN, O., DENNEN, PAUL, D., FULLAGAR, PATRICIA, T., STROH, and LAURA, F. WOOD.** (1986) Chemical evolution of Peninsular Gneiss in the Western Dharwar Craton, Southern India. *Jour of Geol.*, v.94, pp.233-246.
- ROLLINSON, H.R., WINDLEY, B.F. and RAMAKRISHNA, M.** (1981) Contrasting high and intermediate pressures of metamorphism in the Archaean Sargur schists of southern India. *Contri. Miner. and Petro.* v.76, pp.420-429.
- ROY, A. and BISWAS, S.K.** (1979) Metamorphic history of the Sandur schist belt, Karnataka. *Jour. Geol. Soc. India*, v. 20, pp.179-187.
- SADASHIVAIAH, M.S. and IKRAMUDDIN, M.F.** (1972) Differentiated hypersthene - olivine dolerite dyke near Harohalli, Mysore State. *Jour. Geol. Soc. India*. v. 13, pp.209-225.
- SAHA, A.K.** (1979) Geochemistry of Archaean granites of the India Shield: a review. *Jour. Geol. Soc. India*, v.20, pp.375-392.
- SAHA, A.K. and RAY, S.L.** (1984) The structural and geochemical evolution of the Singhbhum granite batholithic complex, India. *Tectanophysics*, v.105, pp.163-176.
- SANDELL, E.B. and GOLDICH, S.S.** (1943) the rarer metallic constituents of some American igneous rocks: I, II. *Jour. Geol.*, v.51, pp.99-167.
- SARKAR, A. and MULLIK, A. K.** (1995) Geochronology and geochemistry of Precambrian mafic dykes from Kolar Gold Field, Karnataka. *Mem. Geol. Soc. India*, No.33, pp.111-132.
- SARVOTHAMAN, H. and LEELANANDAM, C.** ( 1992) Peraluminous, metaluminous and alkaline granites from parts of Andhra Pradesh and Karnataka in the Dharwar Craton: a critical reappraisal of existing data. *Jour. Geol. Soc. India.*, v.39, pp.279-291.
- SATHYANARAYANA, K., SIDDILINGAM, J. and SURYAPRAKASH RAO, K.** (1980) Geochemistry of the basic dykes from Kadiri Schist Belt, Anantapur District, Andhra Pradesh. *Geophys. Res. Bull.*, v.18, pp.153-164.
- SATHYANARAYANA, K., SIDDALINGAM, J. and JAGANNATH JETTY.** (2000) Geochemistry of Archaean metavolcanic rocks from Kadiri Schist belt, Andhra Pradesh, India. *Gond. Res. V. 3, No. 2*, pp.235-244.



- SCHWEITZER** and **KRONER, A.** (1985) Geochemistry and petrogenesis of early proterozoic intracratonic volcanic rocks of the Ventersdrop Supergroup, South Africa. *Chem. Geol.*, v.51, pp.265-288.
- SENGUPTA, S., PAUL, D.K., DE LAETER, J.R., MCNAUGHTON, N.J., BANDYOPADHYAY, P.K. and DE SMETH, J.B.** (1991) Mid-Archaean evolution of the Eastern Indian Craton: Geochemical and isotropic evidence from the Bonai pluton: *Precamb. Res.* v. 49, 23-37.
- SENGUPTA, S.** (1993) Tectonothermal history recorded in mafic dykes and enclaves of gneissic basement in the Schirmacher Hills, East Antarctica. *Precam. Res.*v.63, pp.273-291.
- SHAPIRO, L. and BRANNOCK, W.W.** (1962) Rapid analysis of silicate, carbonate and phosphate rocks. *U.S. Geol. Surv. Bull.*, 1144-A, 56p.
- SHAPIRO, L.** (1975) Rapid analysis of silicate, carbonate and phosphate rocks. Revised Edition, *U.S. Geol. Surv. Bull.*, 1401,76p.
- SHERVAIS, J.W.** (1982) Ti-V plots and petrogenesis of modern and ophiolitic lavas. *Earth Planet. Sci. Lett.*, v.59, pp.101-118.
- SILVER, L.T. and CHAPPEL, B.W.** (1988) The Peninsular ranges batholith: an insight into the evolution of the Cordilleran batholiths of Southwestern North America *Trans. of the Roy. Soc. of Edin: Earth Sci.*, v.79, pp.105-221.
- SINHA, R.C. and KRISHNA RAO, M.** (1968) Geochemistry of the basic rocks around pulivendula, Andhra Pradesh. *Jour. Geochem. Soc. India*, v. 3, pp.25-52.
- SLEEP, N.H. and WINDLEY, B.F.** (1982) Archaean plate tectonics: constraints and inferences. *Jour. Geol.*, v.40, pp363-380.
- SMEETH, W.F.** (1915) Outline of the Geological History of Mysore .*Bull. Mysore Geological Department* ., pp.1-21.
- SMIT, C.A.** (1982) The tectonic setting and chemical classification of the granites of the eastern marginal zone of the Mamraquakud Metamorphic Complex. *Trans. Geol. Soc., S. Africa*, v.85, pp.141-153.
- SRINIVASAN, K.N.** (1990) Geology of the Veligallu and Gadwal schist belts. *Rec. Geol. Surv. India* ,v.123.pt.5.
- SRINIVASAN, K.N.** (2000) Geology of Veligallu schist belt, Cuddapah, Anantapur and Chittoor Districts of Andhra Pradesh. Unpublished Ph. D., Thesis, Osmania University, Hyderabad.

- SRINIVASAN, R., NAHA, K., BHASKAR RAO, Y.J., GOPALAN, K., VREVSKY, A.B., RYBAKOV, S.I. and GOLUBEV, A.I. (1992)** Archaean greenstone belts of the Eastern Baltic and the Southern Indian shields – a comparative study. *Curr. Sci.*, v.62, pp.741-744.
- SPENCER, E. (1945)** Myrmekite in graphic granite and in vein perthite. *Miner. Mag.*, v.27, pp.79-98.
- STOCKWELL, C.H. (1976)**. Revised Precambrian time scale for the Canadian Shield. *Geol. Surv. Canada. Spec. Paper 72-52*: p. 4.
- STRECKEISEN, A.L. (1976)** to each Plutonic rock its proper name. *Earth Sci. Review*.v.12, pp.1-37.
- SUGIMURA, A. (1968)** Spatial relations of basaltic magmas in island arcs. In: H.H. Hess and A. Poldervaart (Eds). *Basalts, Poldervaart treatise on the rocks of basaltic composition*. Wiley/Inter Science, New York, pp.537-571.
- SURADAS SING, N. and SANTOSH KUMAR. (2010)** Petrology and geochemistry of the mafic dyke rocks from Precambrian Almora Crystallines of Kumaun Lesser Himalaya. *Jour.Geol. Soc. India*, v. 76, pp. 437-452.
- SURESH, G. ANANTHANARAYANA, R., HANUMANTHU, R.C. SUBHASISH GHOSH, ANIL KUMAR, A. and REDDY, K.V.S. ( 2010)**. Geology of Pulikonda and Dancherla alkaline complexes, Andhra Pradesh. *Jour. Geol. Soc. India*, v.75, pp. 576-595.
- SWAMINATH, J., RAMAKRISHNA, M. and VISWANATHA, M.N. (1976)** Dharwar stratigraphic model and Karnataka craton evolution. *Geol. Surv. India Records*,v. 107 (2), pp.149-175.
- TAIT, R.E. and HARLEY, S.L. (1988)** Local processes involved in the generation of migmatites within mafic granulites. *Trans of the Roy. Soc. Of Edin: Earth Sci.*, v.79, pp.209-222.
- TARNEY, J., ANDREW, D., SAUNDERS and STEPHEN, D, WEAVER. (1977)** Geochemistry of volcanic rocks from island arcs and marginal basins of Scotia Arc region. In: *Island Arcs, Deep Sea Trenches and Back-arc basins*, Maurice series, Amer. Geophys. Union., v.1.
- TAYLOR, J. (1965)** The applications of trace element data to problems in petrology in 'physics and chemistry of the earth'. 6:133-241.

- TAYLOR, P. N., CHADWICK, B., MOORBATH, S., RAMAKRISHNA, M. and VISWANATHA, M. N. (1984)** Petrography, chemistry and isotopic ages of peninsular gneisses. Dharwar acid volcanics and Chitradurga granites with special reference to Archaean evolution of Karnataka craton, southern India. *Precamb. Res.* v.3, pp.349-375.
- TILLEY, C.E. (1950)** Some aspects of magmatic evolution. *Quart. Jour. Geol. Soc.* London, v.106, pp.37-61.
- TUREKIAN, K.K. and WADEPOHL, K.H. (1961)** Distribution of the elements in some major units of the earth's crust. *Bull. Geol. Soc. America.*, v.72, pp.175-192.
- TURNER, F. J. (1968)** Metamorphic petrology, mineralogical and field aspects, McGraw-hill Book Co., New York, 403p.
- TURNER, F.J. and VERHOOGEN, J. (1962)** Igneous and Metamorphic petrology inc., New York and London. Indian Edition Allied Pacific Pvt. (Ltd.), Bombay, 241p.
- VIJAYA KUMAR, K. (1997)**. Geology of Julakalva schist belt, Anantapur district, Andhra Pradesh. Unpublished M.Phil. Thesis, S.V.University, Tirupati.
- VIJAYA KUMAR, K. and RATNAKAR, J. (2001)** Petrogenesis of the Ravipadu Gabbro Pluton, Prakasam Province, Andhra Pradesh. *Jour. Geol. Soc. India*, v.57, pp.113-140.
- VIJAYAM, B.E. (1969)** Occurrence of tuffisites in pebble dyke, Ulindakonda Kurnool district, A.P., *Jour. Geol.Soc.Ind.*, v.5, pp.86-87.
- VILJOEN, M.J. and VILJOEN, R.P. (1969)** The geology and geochemistry of the lower Ultramafic unit of the Oneverwacht group and a proposed new class of igneous rock. *Spec. Publ. 2. Geol. Soc. S.Africa*, pp. 55-85.
- VINOGRADOV, A.P. (1962)** Average contents of chemical elements in the principal types of igneous rocks of the earth's crust. *Geochemistry*, v.7, p.641.
- VISWANATHA, M.N. and RAMAKRISHNAN, M. (1976)** The pre-Dharwar supracrustal rocks of Sagar Schist Complex in southern Karnataka and their tectono-metamorphic significance. *Indian Mineralogist*, 16, pp. 48-65.
- VON PLATTEN, H. (1965)** Experimental anatexis and genesis of migmatites in controls of metamorphism. *Geol. Jour. Spec.*, Issue No. 1, pp.203-218.
- WAHL, W. (1946)** Thermal diffusion: convection as a cause of magmatic differentiation. *Amer. Jour. Sci.* v.244, pp.417-441.
- WALKER, K.R., JOPLIN, G.A., LOVERING, J.F. and GREEN, R. (1960)** Metamorphic and metasomatic convergence of basic igneous rocks and lime-magnesia sediments

- of the Precambrian of northwestern Queensland. Jour. Geol. Soc. Australia., 6 : 149-177.
- WADEPOHL, K.H. (1953) Untersuchungen Zur Geochemie des Zinks, Geochim. Cosmochim. Acta., v. 3, pp.93.
- WINDLEY, B.F. (1977) The evolving continents. Wiley. London. 385p.
- WILLIAM KING. (1872). On the Cuddapah and Kurnool formations in Madras Presidency. Mem.Geol.Sur.India.8.
- WINKLER, H.G.F. (1949) Crystallization of basaltic magma as recorded by variation of crystal sizes in dykes. Miner. Mag., v.28, pp.557-574.
- WINKLER, H.G.F. (1974) Petrogenesis of metamorphic rocks. Springer-Verlog, New York, pp.293-300.
- YELLUR, D.D. and NAIR, R.S. (1978) <sup>25/1/1988</sup> Assigning a magmatically defined tectonic environment to Chitradurga metabasalts, India by geochemical methods. Precamb. Res., v.7, pp.259-281.
- YODER, H.S. and TILLEY, C.E. (1962) Origin of basalt magmas. An experimental study of natural and synthetic rock systems. Jour. Petrol., v.3, pp.342-532.
- YOUNG, E.J. (1989) Crystalline rocks of the Strawberry Lake area. Front Range, Colorado U.S. Geol. Surv. Bull., 1937, B.1-16.
- ZACHARIAH, J.K., HANSON, G.N. and RAJAMANI, V. (1995) Post crystallization distributions in the Nd and Pb isotope age systematics of metabasalts from the Ramagiri Schist belt, South India. Geochem. Cosmochim. Acta, vol.59, pp.3189-3203.
- ZACHARIAH, J.K., MOHANTA, M.K. and RAJAMANI, V. (1996) Accretionary evolution of the Ramagiri schist belt, eastern Dharwar craton. Jour. Geol. Soc. India, v.48, pp.279-291.
- ZEN, E-AN. (1988) Phase relations of peraluminous granitic rocks and their petrogenetic implication. Ann. Rev. Earth Planet. Sci v.16, pp.21-51.
- ZEN, E-AN. (1986) Aluminum enrichment in silicate melts by fractional crystallization: some mineralogic and petrographic constraints. Jour. Petrol., v.27, pp.1095-1117.