



भारतीय उष्णदेशीय मौसम विज्ञान संस्थान  
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(पृथ्वी विज्ञान मंत्रालय का स्वायत्त संस्थान, भारत सरकार के अधीन)  
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## Certificate

This is to certify that the thesis entitled "*Understanding the intraseasonal variability in the tropical Indian Ocean using Ocean General Circulation Model Studies*" submitted by Sri. *Jayakumar A.* is based on the work carried out by him under my supervision. I hereby certify that neither this thesis nor any part of it has been submitted for any degree/diploma or any other academic award anywhere before. It is further certified that the material obtained from other sources have been duly acknowledged in the thesis.

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