CHAPTER: 6
FURTHER SCOPE
6.1 Introduction

It is tried the level best to develop the system to the ultimate, however there could be few developments that can be done in some of the components. This could be due to the future possibilities of an unforeseen development in the material or combination of materials. This chapter discusses the possible development.

6.2 Sensor Head

In this work as discussed in chapter 3, section 3.8 the ferrules are made up of brass. If the ferrules can be machined in stainless steel metal the sensor head could be used very near to the harsh atmosphere. In addition to this if the sapphire fiber could be properly glued to the ferrules by high temperature sustaining glues there will be less chance of the sapphire fiber getting disturbed in the sensor head. Another important addition that can be done to the sensor head is providing a cooling system to the sensor head. This could protect the whole sensor head component and the power-divider from the high temperature conditions and the sensor.

6.3 Integration Of Components

Despite of a successful development of the system to convert the optical signal to corresponding digital signals, a more compact system could be possible. In this work the radiations are filtered in a particular wavelength band (800nm and 900nm). It could be possible to combine the units like optical fiber, optical filters, photodiodes and amplifiers. One of the possibilities could be coating a thin film of optical filter on the tip of the fiber. This could reduce the problem of loosing the optical signal at the junction of the optical fiber and the optical filter. The other possibility could be coating a thin film of optical filter on the window of the photo detector itself having an amplifier at the base of the photo detector. This could help in reducing the noises up to certain extend.

6.4 Standardizing The Enclosure

In the present work the enclosure is made up of transparent acrylic material. It looks very attractive and beautiful and the modules could be explained without
opening the box. But for the practical use the enclosure could be designed according to the standards.

6.5 Conclusion

The optimized modules are proven to be up-to-date as discussed and characterized in the preceding chapters. Having at a glance at this chapter the message is clear that the developed system is perfect and very few changes are possible in the present work. For more changes one needs to device more advanced schemes such as ultra high integration of the optical and electronic components. But due to the limitations the further work can be carried out as a new project. Thus in conclusion this work has yielded in a beautiful and smart high temperature measurement system. By these few lines I conclude my work.