Title: Design and development of a Fabry-Perot etalon based optical system for measuring the airglow emissions

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Abstract:

Fabry-Perot systems are been deployed for measurements of wind and temperature profiles of the upper atmosphere. The basic component for such a system is the Fabry-Perot etalon. Using this primary component, the entire assembly of optics is designed and developed. This optical assembly is then integrated with the etalon to build a system known as the Fabry-Perot Interferometer. The institute has recently developed such an system and deployed it at the Kolhapur observatory for observations. Since this was the first attempt in making such an instrument, the data delivered by the system has to be improved with some modifications in the existing design. This talk shall discuss on the brief introduction to the Fabry-Perot etalon with more emphasis on the design aspect and the challenges encountered at the stage of component selection, testing and assembly.