

# **Mesosphere-lower thermosphere-ionosphere coupling inferred from OH (7 – 2) band, OI 557.7 nm and OI 630 nm nightglow at Kolhapur (16.8° N, 74.2° E), India**

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The periodic variations exhibited by mesospheric (OH Meinel band and OI 557.7 nm) and F – region airglow (OI 630 nm emission) provide important information about the coupling of mesosphere-lower thermosphere-ionosphere system. Nightglow observations of OH (7 – 2) {P<sub>1</sub> (3) line and integrated R – branch emission}, OI 557.7 nm and OI 630 nm emission intensities were carried out at Kolhapur (16.8° N, 74.2° E), India to investigate this coupling. An All sky scanning photometer had been operated in east west scan mode during November 2003 to April 2004. Preliminary results of the correlation, auto correlation and cross correlation analysis between P<sub>1</sub> (3) line and integrated R – branch emission of OH (7 – 2) band, derived OH rotational temperature, OI 557.7 nm and OI 630 nm emissions have been presented. The percentage contribution of F – region to OI 557.7 nm nightglow has also been evaluated.