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Dust Aerosol trends over the Eastern Mediterranean region during 2003-2019

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Dust Aerosol Optical Depth (DAOD) is considered as one of the main sources of uncertainty in the assessment of climate change. In this talk, we present results of DAOD trend over the Eastern Mediterranean (EM) region in the dusty season (April- May- June- and July: AMJJ) during the years 2003-2019 using long-term DAOD from the Modern-Era Retrospective analysis for Research and Applications, Version 2 (MERRA-2) and the Copernicus Atmosphere Monitoring Service Reanalysis (CAMSR). MERRA-2 and CAMSRA DAOD displayed significant positive trends during the years 2003-2010 over the region at the rates of 0.007 year^{-1} and 0.005 year^{-1} , respectively. In contrast, significant negative MERRA-2 and CAMSRA DAOD trends occurred during the years 2010 -2017 with the rates of -0.009 year^{-1} and -0.004 year^{-1} , respectively. Moreover, trend analysis was also attempted for the Angstrom Exponent ($AE_{440-870}$) and Fine Mode Fraction (FMF_{500}) from 3 AERONET sites in the region. AERONET data are compatible with the trend of MERRA-2 and CAMSRA DAOD. This suggests that the aerosols trend on the EM region is influenced by aeolian dust level.