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【96】Quantifying degradation of a cavity detector in a total solar irradiance instrument on a FengYun3 satellite

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Accurate long-time data of Total Solar Irradiance (TSI) are fundamental to understand solar forcing of climate change. The TSI space radiometers suffered degradations of their cavity detectors due to strong solar exposure. The detector degradation has been a challenge to get accurate space measurements of TSI. Degradation of one routine channel in a TSI instrument onboard a Chinese FengYun-3 satellite is quantified using day observations in 24 months by comparisons with other space TSI sensors. The novel quantifying method has been used for degradation correction of the TSI instrument on the FengYun-3 satellite. The correction method for detector degradation has been validated by comparisons with other TSI space instruments.

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