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Poster
Each observatory in the GOES 16-19 series carries three instruments dedicated to solar energetic particle (SEP) measurements: two Solar and Galactic Proton Sensors (SGPS), which are the primary instruments for proton and helium ion (alpha particle) fluxes, and one Energetic Heavy Ion Sensor (EHIS), which is the primary instrument for heavy ion fluxes from carbon to nickel. The SGPS proton differential fluxes are used to derive the integral fluxes upon which NOAA SWPC bases its solar radiation storm alerts. This poster focuses on the SGPS alpha particle and the EHIS heavy ion data sets, which are important as inputs to dose models and indicators of elevated risk of single event effects, among other applications. The instrument energy channels, geometric factors, and look directions are described. Observations during recent SEP events of Solar Cycle 25 serve as the basis for comparisons between GOES satellites and with other missions. The current and planned operational status and retrospective and real-time data availability of these data sets are described.

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Geospace/Magnetosphere Research and Applications
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Space Weather Workshop 2025
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