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Long-term measurements with the Phoswich Instrument for Neutrons and Gammas - Secondary Neutrons and the variation of terrestrial radiation

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The portable detector "Phoswich Instrument for Neutrons and Gammas" (PING) was designed to measure secondary neutrons in the Earth's atmosphere. After several successful balloon flights and measurements in aircraft, the detector was installed for long-term measurements at the Environmental Research Station Schneefernerhaus (2660 m above sea level) on the Zugspitze mountain in Germany. With the anticoincidence made of a CsI(Na) scintillator, effects like precipitation radioactivity and count rate variations due to radon concentration changes can be detected and compared to measurements from other experiments taken at the same time.