



I N T E G R A L
SCIENCE DATA CENTRE

Centre attaché à l'Observatoire de Genève



UNIVERSITÉ DE GENÈVE

ASTROPHYSICS SEMINAR



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A Mystery of the Galactic Bulge: SPI Observations of Positron Annihilation

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Abstract. The imaging spectrometer SPI on board ESA's INTEGRAL observatory provides us with an unprecedented view of positrons in our Galaxy. The first all-sky maps in the 511 keV annihilation line and in the positronium continuum show a puzzling concentration of annihilation radiation in the galactic bulge. The annihilation of positrons appears to be even more concentrated in the bulge than old stellar populations such as Type Ia supernovae, novae, or low-mass X-ray binaries. New, speculative physics like positron production from light dark matter has begun to be discussed as a possible solution. High-resolution spectroscopy of the bulge emission is providing additional clues. SPI allowed us to solve a few of the positron annihilation puzzles of the past, but has deepened the mystery of the galactic bulge.

Additional Information

The seminars are given in the ISDC "Pavillon" building
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