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**UNIVERSITÉ  
DE GENÈVE**

FACULTÉ DES SCIENCES  
Département d'astronomie

## ASTROPHYSICS SEMINAR



Tuesday, 13 November 2007 at 14:00

# Correlation of ultra-high energy cosmic rays with nearby astrophysical sources observed by the Pierre Auger Observatory

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**Abstract.** The Pierre Auger Observatory (close to completion of construction in Argentina) has collected  $9000 \text{ km}^2 \text{ sr yr}$  of exposure at the energies  $E > 10^{19} \text{ eV}$  during the period 2004–2007. This is the highest exposure achieved by any ultra-high-energy cosmic ray (UHECR) experiment. The large exposure has enabled to detect the so-called Greisen-Zatsepin-Kuzmin (GZK) cut-off in the UHECR spectrum with a significance of more than 6 sigma. The detection of this cut-off provides evidence for an astrophysical origin of UHECR sources. In this talk I will present recent results on correlation of arrival directions of UHECR events with sky positions of nearby astronomical sources. These results open a new field of UHECR astronomy.

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### Additional Information

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The seminars are given in the ISDC "Pavillon" building  
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