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UNIVERSITÉ DE GENÈVE

## ASTROPHYSICS SEMINAR

INTEGRAL SCIENCE DATA CENTRE

Friday, March 21, 2003 at 11:00

# Super-Eddington outburst in a binary system: V4641 Sgr

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**Abstract.** X-ray transients provide a unique opportunity to probe accretion regimes at vastly different accretion rates. I present the results of one of the most enigmatic transient sources – the high mass X-ray binary V4641 Sgr – and argue that its giant September 1999 outburst was associated with an episode of super-Eddington accretion onto the black hole. During the outburst an extended optically thick envelope/outflow has been formed around the source making the observational appearance of V4641 Sgr in many aspects very similar to that of SS433.

These results suggest that objects like V4641 Sgr and SS433 indeed represent the class of objects accreting matter at a rate comparable or above Eddington value and the formation of an envelope/outflow is a generic characteristic of supercritical accretion. When the accretion rate decreased the envelope vanished and the source's short-term variability and spectral properties started to resemble those of other galactic black hole candidates accreting at a rate well below the Eddington value.

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### Additional Information

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The seminars are given in the ISDC "Pavillon" building  
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