

*Poster*

## **MODELLING LUMINOSITY AND AREA FUNCTIONS OF LYMAN-ALPHA BLOBS**

**M. Smailagić**

*Astronomical Observatory, Volgina 7, 11060 Belgrade 38, Serbia*

*E-mail: marijana@aob.rs*

Lyman-alpha blobs are objects which are very extended ( $> 50 - 100$  kpc) and very luminous ( $> 10^{43}$  erg s $^{-1}$ ) in the Lyman-alpha emission line, and are mostly observed at redshifts  $z \sim 2 - 3$ . The source of their energy is not well understood. It is expected that different sources of energy are related to each other and it is found that the extended Lyman-alpha emission is closely connected with cold HI gas distribution. In this work we assume that the Lyman-alpha emissivity is proportional to the emissivity from the cold gas accretion rate. We determine luminosity and area functions at redshifts  $z \sim 1 - 6$ , and compare with observations.

*Poster*

## **MODELLING LINE EMISSION FROM SUB PARSEC SPIRAL STRUCTURES AROUND ECCENTRIC ORBITS OF SUPERMASSIVE BINARY BLACK HOLE SYSTEMS**

**M. Smailagić and E. Bon**

*Astronomical Observatory, Volgina 7, 11060 Belgrade 38, Serbia*

*E-mail: marijana@aob.rs, ebon@aob.rs*

Variability of active galactic nuclei is not well understood. One possible explanation is existence of supermassive binary black holes (SBBH) in their centres. It is expected that each supermassive black holes of every galaxy eventually finish as a SMBBH system in the core of newly formed galaxy. We model the emission lines from inner spiral structures of inflowing gas around SMBBH systems with eccentric orbits. We assume that that inflowing gas around SMBBH systems is photo ionised by mini accretion disk emission around each black hole. We calculate variations of emission line flux, shifts and shapes for different parameters.