

The space VLBI mission RadioAstron: AGN results

Yuri Kovalev^{1,2}

¹Astro Space Center of Lebedev Physical Institute, Profsoyuznaya 86/32,
117997 Moscow, Russia

²Moscow Institute of Physics and Technology, Institutsky per. 9,
Dolgoprudny 141700, Russia

Abstract. The RadioAstron Space VLBI mission utilized the 10-m radio telescope on board the dedicated Spektr-R spacecraft to observe cosmic radio sources with an unprecedented angular resolution at centimeter wave lengths in total and polarized light. The longest baseline of the space-ground interferometer is about 350000 km. It operated in 2011–2019 together with 58 largest ground radio telescopes. Resolution as high as 10 microarcsec has been achieved. An overview of its AGN science results will be presented in the talk. It includes a probe of jet emission mechanism through brightness temperature measurements, reconstruction of magnetic field structure close to the jet origin using polarization data, jet formation and collimation study for well resolved nearby AGN, as well as observations and analysis of jet precession and plasma instabilities. We will also discuss a new scattering effect which was discovered by RadioAstron to affect high resolution radio measurements of AGN and SgrA*.

Keywords. galaxies: active, galaxies: properties, active: relativistic jets
