Mini-symposium
VLBI and High-Resolution Astronomy in the next decade

MPE, Garching, June 26th, 2008

ABSTRACTS

Tiziana Venturi (INAF-IRA, Bologna):
"The European VLBI Network: current status and future prospects"

Abstract: TBD

Benedetta Ciardi (MPA, Garching):
"The E-LOFAR project"

Abstract: LOFAR is a new generation radio telescope, whose core is presently being built in The Netherlands. This though is rapidly evolving into a European effort (E-LOFAR), with contruction of Remote Stations in Germany, UK, France, Sweden. In this talk I will present a general overview of E-LOFAR and discuss the German and MPA involvment in the project.

Robert Laing (ESO, Garching):
"ALMA and its relation to VLBI"

Abstract: ALMA is an aperture synthesis array optimized for mm and sub-mm observing, currently under construction on the Chajnantor Plateau in Chile. I will summarize the main science drivers, expected performance and current status of the project. In its most extended configurations at high frequencies, ALMA will have a resolution of 5 milliarcsec - comparable to VLBI. I will emphasize a key application which makes use of this capability: imaging of protoplanetary disks. It will be possible to use ALMA as a phased array, making it an extremely sensitive component of a mm VLBI network. I will describe two important applications of such an array: imaging the jet collimation region in radio galaxies and searching for General Relativistic effects around black hole event horizons in our own and other galaxies.

Tom Muxlow (JBO, University of Manchester):
"VLBI observations of high redshift systems: starbursts and AGN in the Hubble Deep Field"

Abstract: TBD

Richard Strom (ASTRON):
"VLBI observations of Supernovae"

Abstract: TBD

Marc Ribó (University of Barcelona):
"VLBI observations of microquasars and TeV emitting X-ray binaries"

Abstract: The new generation of imaging atmospheric Cherenkov telescopes (HESS, MAGIC, VERITAS) has allowed us to conduct sensitive observations in the TeV regime. Four X-ray binaries, all of them containing high-mass donor stars, have been detected up to now. While in one case the compact object is a confirmed young non-accreting pulsar, and in another one is a dynamically confirmed stellar-mass black hole and microquasar jet source, the situation is not yet clear in the two other cases. I will shortly explain the different scenarios proposed to account for the multi-wavelength emission of these systems and I will focus on how VLBI observations can help to unveil the nature of the powering sources in these newly discovered TeV emitting X-ray binaries.