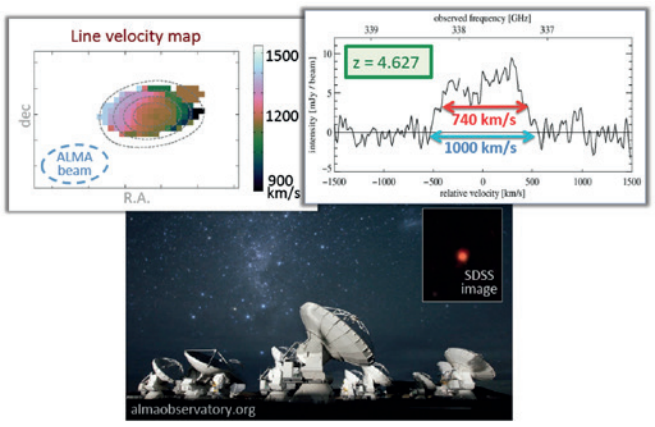
Colloquium

SFB 956

Conditions and Impact of Star Formation

26.10.2015 | supplementary colloquium
Monday 11:00 am

AIfA, Bonn
Argelander-Institut für Astronomie
Auf dem Hügel 71 | 53121 Bonn
AIfA Lecture Hall



Amy Kimball
CSIRO Astronomy & Space Science (CASS), Sydney, Australia

Probing the Early Universe with Sub-millimeter Observations of Extremely Luminous QSOs

I will present ALMA observations of some of the most luminous quasi-stellar objects (QSOs) known, investigating their far-infrared emission and discussing an extremely broad and luminous double-peaked [CII] line in a QSO at redshift z=4.6. The parent sample was compiled from multi-wavelength sky survey data, with which we were able to identify the most luminous (unobscured) QSOs in the Universe. Of over 100,000 broad-line quasars identified in the SDSS, just 90 have bolometric luminosities greater than 10^{14} solar luminosities (as or more luminous than the most luminous obscured quasars currently known).

We are for the first time determining the far-infrared continuum of this extremely luminous population. In addition, an unusually broad [CII] line observed in one target suggests a massive rotating disk in place at redshift z=4.6, with implications for the high-redshift M-sigma relation.