IX SERBIAN CONFERENCE ON SPECTRAL LINE SHAPES IN ASTROPHYSICS
May 13-17, 2013, Banja Koviljača, Serbia
Book of Abstracts, Eds. L. Č. Popović, M. S. Dimitrijević, Z. Simić and M. Stalevski
Astronomical Observatory Belgrade, 2013

QUASARS AND THEIR EMISSION LINES AS COSMOLOGICAL PROBES

P. Marziani[1] and J. W. Sulentic[2]

[1]*INAF, Osservatorio Astronomico di Padova, Vicolo dell' Osservatorio 5, 35122 Padova, Italia*
[2]*Instituto de Astrofísica de Andalucía (CSIC), Granada, España*
E-mail: paola.marziani@oapd.inaf.it, sulentic@iaa.es

Quasars are the most luminous stable sources in the Universe. Unfortunately quasars also cover an impressive range of luminosities and therefore cannot be considered "standard candles" by any mean. Yet emission line properties can yield estimates of each quasar's central black hole mass and accretion rate. We discuss several methods that can potentially exploit quasars' physical properties to obtain useful constraints on the main cosmological parameters. We stress that a realistic application of methods based on broad emission lines would benefit of a better understanding of the line emitting region structure.

ANALYZING RESOLVED EMISSION LINES: AN INSTRUMENT TO STUDY STARBURST AT DIFFERENT z

C. Muñoz-Tuñón et al.

Instituto de Astrofísica de Canarias

Line profile analysis is frequently used as the tool to search for the ISM kinematics. Emission line widths together with the luminosity are the parameters used in the scale relations, which relate star forming regions, from Giant HII regions to HII galaxies, in the local Universe. The scale relations are starting to be used also for the starburst galaxies in the high-z Universe and, therefore, to be able to sample the line profiles is more important now than ever. I will discuss some examples of the results that can be achieved by means of resolved emission lines in starburst. I will show also that the high-resolution spectroscopy of emission lines provides an extremely useful tool not only to determine the star formation feedback but also to unveil structures not resolved in the images.