Observing the Sun with ALMA

¹<u>Arnold O. Benz</u>, ²Roman Brajsa, ³Masumi Shimojo, ⁴Marian Karlicky, ⁵Leonardo Testi (¹ Institute of Astronomy, ETH Zurich, Switzerland, ²Hvar Observatory, Faculty of Geodesy, University of Zagreb, Croatia, ³Nobejama Solar Radio Observatory, Japan, ⁴Astronomical Institute, CAS, Ondrejov, Czech Republic, ⁵ESO, Garching, Germany)

benz@astro.phys.ethz.ch

Session: SpS6 Science with large solar telescopes

Type of presentation: Oral

The Atacama Large Millimeter Array (ALMA) is in the commissioning phase for solar observations. A filter reduces the solar radiation to a level suitable for solar observations. First observations with one antenna have mapped the Sun by scanning. The results look promising. The image of the quiet chromosphere shows large spatial variations in emissivity. Interferometry is much more demanding and not yet achieved. The current state and problems will be summarized. It is clear that solar ALMA observations will take more developing time, but will eventually be possible. The goal is subarcsecond resolution of the quiet and active submillimeter continuum radiation originating in the chromosphere and possibly in the flaring corona. A limiting factor will be the temporal variability of the solar emission