

# Institutsseminar

über

## **Chasing Gaia - Serving the greatest revolution in Galactic astronomy**

Gaia will measure the parallaxes and proper motions of 1 billion stars and many solar system objects (e.g. asteroids, comets) at a precision level of up to 10 microarcseconds. In order to complete this ambitious task the position and motion of the satellite needs to be known far better than in other missions. Effects, such as astronomical aberration caused by the finite velocity of light, significantly affect the accuracy of measurements, and therefore need to be accounted for. For parallax measurements of small solar system bodies we need to know the baseline and thus Gaia's position very precisely. The usual satellite tracking method is not sufficient and needs to be augmented by ground based optical observations of the satellite. Therefore, the Ground Based Optical Tracking (GBOT) group is currently setting up a worldwide campaign of several telescopes which will obtain the ground based data on a daily (=24 hrs) basis. I will give an overview of the Gaia project and its scientific promises, and describe the GBOT and its current status.

von

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**Montag, 16. Jänner 2012 um 15:00 s.t. im HS**  
des Institutes für Astronomie, Türkenschanzstraße 17, 1180 Wien

Univ.-Prof. Dr. Manuel Güdel  
Univ.-Prof. Dr. Bodo Ziegler

