Results of two multi-chord stellar occultations by dwarf planet (1) Ceres

A. R. Gomes-Júnior[1],B. L. Giacchini[2,3,4],F. Braga-Ribas[5,6,†], M. Assafin[1,†,‡], R. Vieira-Martins[1,5,†,‡], J.I.B. Camargo[5,†], B. Sicardy[7], B. Timerson[4], T. George[4], J. Broughton[8], T. Blank[4], G. Benedetti-Rossi[5], J. Brooks[4], R. F. Dantowitz[9], D. W. Dunham[4], J. B. Dunham[4], C. K. Ellington[4], M. Emilio[10], F.R. Herpich[11], C. Jacques[3,12], P. D. Maley[4,13], L. Mehret[10], A.J.T. Mello[14], A.C. Milone[15], E. Pimentel[3,12], W. Schoenell[11], N. S. Weber[9]

[1]Observatório do Valongo/UFRJ, Ladeira Pedro Antônio 43, CEP 20.080-090 Rio de Janeiro - RJ, Brazil
[2]Centro Brasileiro de Pesquisas Físicas, Rua Dr. Xavier Sigaud 150, Rio de Janeiro 22290-180, Brazil
[3]Seção de Ocultações/REA-Brasil, Belo Horizonte, Brazil
[4]International Occultation Timing Association, P.O. Box 131034, Houston, TX 77219-1034, USA
[5]Observatório Nacional/MCTI, R. General José Cristino 77, CEP 20921-400 Rio de Janeiro - RJ, Brazil
[6]Federal University of Technology - Paraná (UTFPR / DAFIS), Rua Sete de Setembro, 3165, CEP 80230-901, Curitiba, PR, Brazil
[7]LESIA, Observatoire de Paris, CNRS UMR 8109, Université Pierre et Marie Curie, Université Paris-Diderot, 5 place Jules Janssen,
F-92195 Meudon Cedex, France
[8]RASNZ Occultation Section, P.O. Box 3181, Wellington, New Zealand
[9]Clay Center Observatory at Dexter Southfield, 20 Newton Street, Brookline, MA 02445, USA
[10]Universidade Estadual de Ponta Grossa, Ponta Grossa, Brazil
[11]Universidade Federal de Santa Catarina, Florianópolis, Brazil
[12]Centro de Estudos Astronômicos de Minas Gerais, Belo Horizonte, Brazil
[13]NASA Johnson Space Center Astronomical Society, Houston, Texas, USA
[14]Federal University of Technology - Paraná (UTFPR / DAELT), Rua Sete de Setembro, 3165, CEP 80230-901, Curitiba, PR, Brazil
[15]Instituto Nacional de Pesquisas Espaciais, São José dos Campos, Brazil
[†] Associated to Laboratório Interinstitucional de e-Astronomia - LIneA, Rua Gal. José Cristino 77, CEP 20921-400, Rio de Janeiro, Brazil
[‡]Affiliated researcher at Observatoire de Paris/IMCCE, 77 Avenue Denfert Rochereau 75014 Paris, France

We report the results of two multi-chord stellar occultations by the dwarf planet (1) Ceres that were observed from Brazil on 2010 August 17, and from the USA on 2013 October 25. Four positive detections were obtained for the 2010 occultation, and nine for the 2013 occultation. Elliptical models were adjusted to the observed chords to obtain Ceres' size and shape. Two limb fitting solutions were studied for each event. The first one is a nominal solution with an indeterminate polar aspect angle. The second one was constrained by the pole coordinates as given by Drummond et al. Assuming a Maclaurin spheroid, we determine an equatorial diameter of 972 ± 6 km and an apparent oblateness of 0.08 ± 0.03 as our best solution. These results are compared to all available size and shape determinations for Ceres made so far, and shall be confirmed by the NASA's *Dawn* space mission.

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For preprints, contact altair08@astro.ufrj.br, breno@cbpf.br, ribas@on.br
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