

High Resolution Imaging of Io's Volcanoes with LBTI

Albert Conrad¹, Jarron Leisenring², Katherine de Kleer³, Andy Skemer², Philip Hinz², Michael Skrutskie⁴, Christian Viillet¹, Imke de Pater³, Mario Bertero⁵, Patrizia Boccacci⁵, Denis Defrère, Karl-Heinz Hofmann⁶, Andrea la Camera⁵, Dieter Schertl⁶, John Spencer⁷, Gerd Weigelt⁶, Charles E. Woodward⁸.

¹ Large Binocular Telescope Observatory, 933 N. Cherry Ave, Tucson, Arizona 85721; ² University of Arizona, 1428 E. University Blvd, Tucson, AZ 85721; ³ University of California at Berkeley, Berkeley, CA 94720; ⁴ University of Virginia, 530 McCormick Road, Charlottesville, VA 22904; ⁵ University of Genoa, Via Dodecaneso 35, Genoa, Italy; ⁶ Max Planck Institute for Radio Astronomy, Auf dem Huelgel 69, Bonn, Germany 53121; ⁷ Southwest Research Institute, 1050 Walnut Ste. Suite 300, Boulder, CO 80302; ⁸ University of Minnesota, 116 Church St., Minneapolis, MN 55455

Abstract

We report new findings in the on-going study of volcanic processes at Loki Patera on Io. From images acquired with the Large Binocular Telescope Interferometer (LBTI) on December 24th, 2013, we detected a strong M-band emission feature at Loki Patera. Using the high resolution Fizeau mode of LBTI, we measured its size, its irregular shape, and its position with respect to Loki's horseshoe lava lake. We detected and measured locations for 16 additional hot spots, including two enigmatic sources in Colchis Regio.

