

CIRCULAR LOWS. A GENETICALLY DISTINCT SUBSET OF
CORONAE ON VENUS?

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Dedication

To my family, for always being there when I need them.

Abstract

Venusian coronae are circular to quasi-circular features, ranging from about 60 to 2600 km in diameter with distinctive tectonic, volcanic, and topographic expressions. The purpose of this research is to investigate a subset of coronae with amphitheater-like depressions, referred to as circular lows, and to determine whether circular lows originated from either an endogenic or exogenic process. A global survey of circular lows using SAR (synthetic aperture radar), inverted SAR, stereo imagery, and altimetry from the NASA Magellan mission (1989 – 1994) was used to identify the locations of these circular lows. Detailed geologic mapping of five circular lows enabled me to interpret whether circular lows agree best with characteristics originating from a diapir, a collapse caldera, or a bolide impact.

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