



# Dynamical Opacity-Sampling Models of Mira Variables. II: Time-Dependent Atmospheric Structure and Observable Properties of 4 M-Type Model Series

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*(Submitted on 19 Jul 2011)*

We present 4 model series of the CODEX dynamical opacity-sampling models of Mira variables with solar abundances, designed to have parameters similar to  $\delta$  Cep, R Leo and R Cas. We demonstrate that the CODEX models provide a clear physical basis for the molecular shell scenario used to explain interferometric observations of Mira variables. We show that these models generally provide a good match to photometry and interferometry at wavelengths between the near-infrared and the radio, and make the model outputs publicly available. These model also demonstrate that, in order to match visible and infrared observations, the Fe-poor silicate grains that form within 3 continuum radii must have small grain radii and therefore can not drive the winds from O-rich Mira variables.

Comments: 16 pages, 18 figures, accepted for MNRAS

Subjects: **Solar and Stellar Astrophysics (astro-ph.SR)**

Cite as: [arXiv:1107.3619](#) [astro-ph.SR]

(or [arXiv:1107.3619v1](#) [astro-ph.SR] for this version)

## Submission history

From: Michael Ireland [[view email](#)]

[v1] Tue, 19 Jul 2011 03:18:49 GMT (513kb)

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