

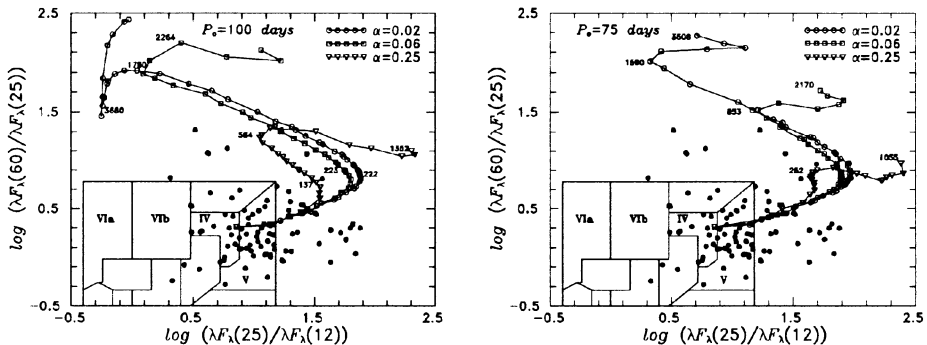
## INFLUENCE OF THE STELLAR WINDS ON THE POST-AGB EVOLUTION.

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Modelling of evolution of dusty shells around post-AGB star of  $0.598 M_{\odot}$  mass has been performed by means of the Yorke's hydrodynamical code. In this code dust and gas are treated as two separate components coupled by friction, and the spectral appearance of the model is computed by solving the angle and frequency dependent continuum radiation transfer problem. Calculations were carried out for dust composed of silicate grains. The emergent spectrum of the model has been convolved with the IRAS photometric band profiles to construct theoretical tracks on the IRAS two-color diagram.

The dynamical calculations have been started with the ejection of  $0.2 M_{\odot}$  during 2000 years. The "superwind" cessation has been coupled to the pulsation period ( $P_0 = 100$  or 75 days) of the star. A number of evolutionary sequences, beginning from the end of "superwind" till the nebula ionization, have been calculated assuming different stellar winds after departure from the AGB (see Górny - this volume). Adopting the initial dust-to-gas mass ratio of  $7.5 \cdot 10^{-3}$  (during the whole evolution) and the initial velocity of 5 km/s (during the "superwind") at the dust condensation radius ( $T_d = 1000$  K), terminal velocity of the main shell close to 15 km/s has been obtained.



**Figure:** The influence of the moment of "superwind" cessation and the stellar wind on the track positions in the IRAS diagram.

From the Figure it can be seen that evolutionary behaviour of the calculated models strongly depends on the post-AGB mass loss rates as well as on the exact moment of "superwind" cessation. Both this factors greatly influence the stellar evolutionary timescales which in consequence determine the spectral behaviour of the models. Comparison between the calculated sequences and the observational data should allow to put constraints on the post-AGB evolution scenario.