pocket right up to the surface will become convective. This would be a totally new type of deep convective envelope with a vast number of fascinating implications. Careful checks of this new phenomenon are now underway. (Supported in part by the National Aeronautics and Space Administration [NSG 7195].)

DISCUSSION

Stecher: In our analysis of NGC 7662 we found abundances which would be expected for an intermediate object except for carbon which was twice that expected. My question is with your respective mechanisms how much He should we get?

Sackman: You can get many things. You can get carbon rich stars with normal helium or you can get carbon rich, nitrogen rich, helium rich, depending on how many times you allow your flashes to recycle things.

Sugimoto: It depends on the mass contained in the hydrogen rich envelope In the particular case of FG Sagittae, the mass of the envelope is very small and it must be helium rich. Helium is something like 80% of the mass.

HYDROGEN- AND HELIUM-SHELL FLASHES AND FG SAGITTAE PHENOMENON

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Evolution of an electron-degenerate carbon-oxygen star of 1.08 $M_\odot$ was computed assuming that hydrogen-rich gas was accreted at 1.58 x 10^{-7} $M_\odot y^{-1}$. Such a star mimicks the evolution of FG Sge, if a part of the ejected mass accretes back onto the central star. When a hydrogen envelope of 4 x 10^{-6} $M_\odot$ was formed, a hydrogen-shell flash began. Succeeding 300 hydrogen-shell flashes were suppressed artificially to compute the growth of helium zone. After 8100 years of accretion, helium-shell flash began. Helium convection zone was found to reach the bottom of the hydrogen envelope, because the entropy barrier was low for the thin envelope. Protons were mixed into the helium zone, which produced neutrons and s-process elements. The mixing triggered also the hydrogen-shell flash. Hydrogen convection zone reached a mass shell of 10^{-8} $M_\odot$ measured from the surface. After the helium-shell flash ceased, the hydrogen envelope expanded greatly and a deepening surface convection dredged up the s-process elements. (Paper to be submitted to Publ. Astron. Soc. Japan.)