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Accretion of hydrogen poor material onto stars as a possible process which could change their outer abundances has recently been given a new boost with the study of exoplanets host stars. These stars present a metallicity excess compared to stars in which no planets have been detected. This result is confirmed by all recent observations. However the reason for this excess is still a subject of debate: is it primordial, is it the result of accretion or both? The basic argument against an accretion origin is related to the fact that the metallicity excess is similar in all stars while the masses of the outer convective zones vary by more than one order of magnitude. In these discussions however, a fundamental process was forgotten: thermohaline convection induced by the inverse μ -gradient. We show that “Metallic fingers” may be created which dilute the accreted matter inside the star. Introducing this effect may reconcile the overabundances expected in case of accretion with the observations in stars of different masses. It may also have important effects in all the cases when metal rich layers lie above matter with normal composition.
