

MAGNETIC FIELD AND ACTIVITY STUDY IN M GIANT STARS

RENADA KONSTANTINOVA-ANTOVA¹, AGNES LEBRE², STEFAN GEORGIEV^{1,2}, MICHEL AURIERE³, ANA PALACIOS², RUMEN BOGDANOVSKI¹, JULIEN MORIN², ERIC JOSSELYN², NATALIA DRAKE^{4,5}, SVETLA TSVETKOVA^{1,2}

¹*Institute of Astronomy and NAO, Bulgarian Academy of Sciences, Sofia, Bulgaria*

²*LUPM, Univesitite Montpellier, Montpellier, France*

³*IRAP, Univesitite Paul Sabatier, Tarbes, France*

^{4,5}*Laboratory of Observational Astrophysics, Saint Petersburg State University, Saint Petersburg, Russia ; Laboratório Nacional de Astrofísica, Itajubá, Brazil*

E-mail: renada@astro.bas.bg

We present our long-term study of the magnetism and activity in selected stars on tip Red Giant Branch (RGB) and on the Assymptotic Giant Branch (AGB). The properties of their magnetic activity is compared to the activity in G and K giants that are the earlier evolutionary stages, and to the more evolved Mira-type pulsating stars and the supergiant Betelgeuse. The possible mechanisms for their magnetic field generation are discussed in the context of the stellar evolution.