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Analysis of Structure and Evolution of Binary System GV Leo

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GV Leo is a W Ursa eclipsing binary with an orbital period of 0.266727 day. From the previous investigation of its light curve, it was found that this binary system has a continuous orbital period change. A light curve of GV Leo was analyzed using program MaxIm DL3 and its period change was also calculated. The results revealed that the orbital period of GV Leo was continuously decreased at rate of 0.004524349151 seconds per year to 0.005440856529 seconds per year and using PHOEBE software was used to compute the best system is parameters. The over contact binary system with g = 0.829, i = 69.86 degree. The temperature of primary star and secondary star were 5,020 K and 5,650 K respectively. From the analysis of physical parameters and model, it was found that GV Leo had a contact characteristic with high mass ratio. It is possible that the evolution of GV Leo would be a single star due to mass transfer of the system.

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