## B23a Will ASTRO-H allow us to "X-ray" TeV binary systems?

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Binary systems detected at the very high energy (VHE) regime form an important class of $\gamma$-ray sources, since the production of VHE $\gamma$-rays in these compact sources challenges the conventional mechanisms of particle acceleration and radiation. While the detection of VHE signal indicates on the operation of some extremely efficient processes in these systems, a detailed modeling of these processes requires the multiwavelength approach. Indeed, the presence of the dense photon field provided by the companion star almost unavoidably lead to a sever $\gamma$-$\gamma$ attenuation of TeV $\gamma$-rays. Therefore, the intrinsic $\gamma$-ray spectrum can be significantly deformed. Thus, the modeling of the VHE processes occurring in $\gamma$-ray binary systems requires a simultaneous study of the many different processes, which includes particle acceleration, transport, radiation, attenuation and eventually cascading. On the other hand, the nature of $\gamma$-ray binary systems strongly favors the leptonic origin of the VHE emission, i.e. through inverse Compton scattering of VHE electrons on the stellar photons. In the frameworks of this scenario, the electrons responsible for $\gamma$-ray emission should also emit in the X-ray energy band through the synchrotron channel. This emission remains insensitive to the sever $\gamma$-$\gamma$ absorption occurring on the stellar photons. Thus, enough sensitive X-ray observation together with TeV data provides a mean for a deep insight into the physics of TeV binary systems. In particular, the future observation with ASTRO-H should allow a detailed study of the structure of the non-thermal emitters in binary systems.