HAWC J2227+610: a potential PeVatron candidate for the CTA in the northern hemisphere

Executive summary

July 5, 2021

1 What is this contribution about?

We have done a spatial and spectral study of a potential PeVatron candidate observed with the future CTA-North array.

2 Why is it relevant/interesting?

This study touches the hot topic of the galactic PeVatron hunt and gives an insight on the future observations of a promising candidate with the first CTA telescopes to be built.

3 What we have done?

We have simulated the source considering a recently proposed hadronic model and two radio maps. We have then studied the source morphology and its spectrum testing different parametric models.

4 What is the result?

CTA-North can significantly detect the extension of the source and it can correctly reproduce the proton spectrum in the hadronic hypothesis. However, it is not able to disentangle the simulated hadronic model from a leptonic emission model.