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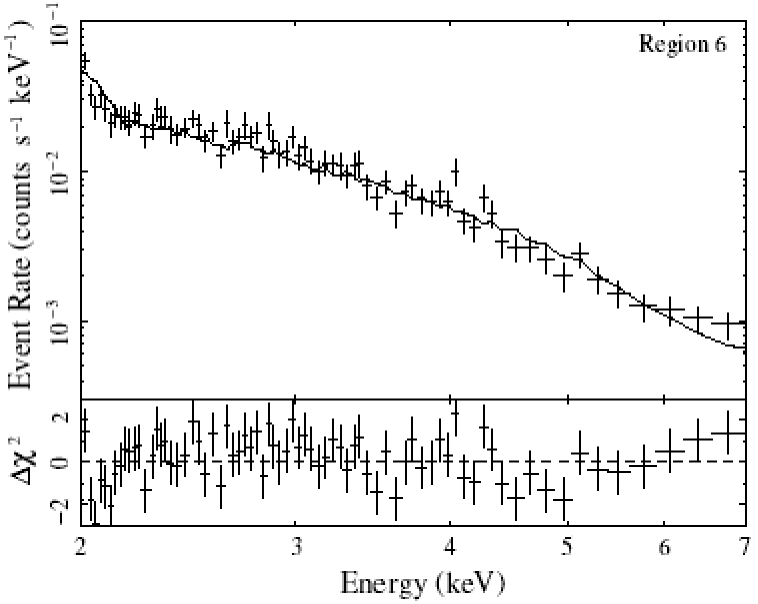
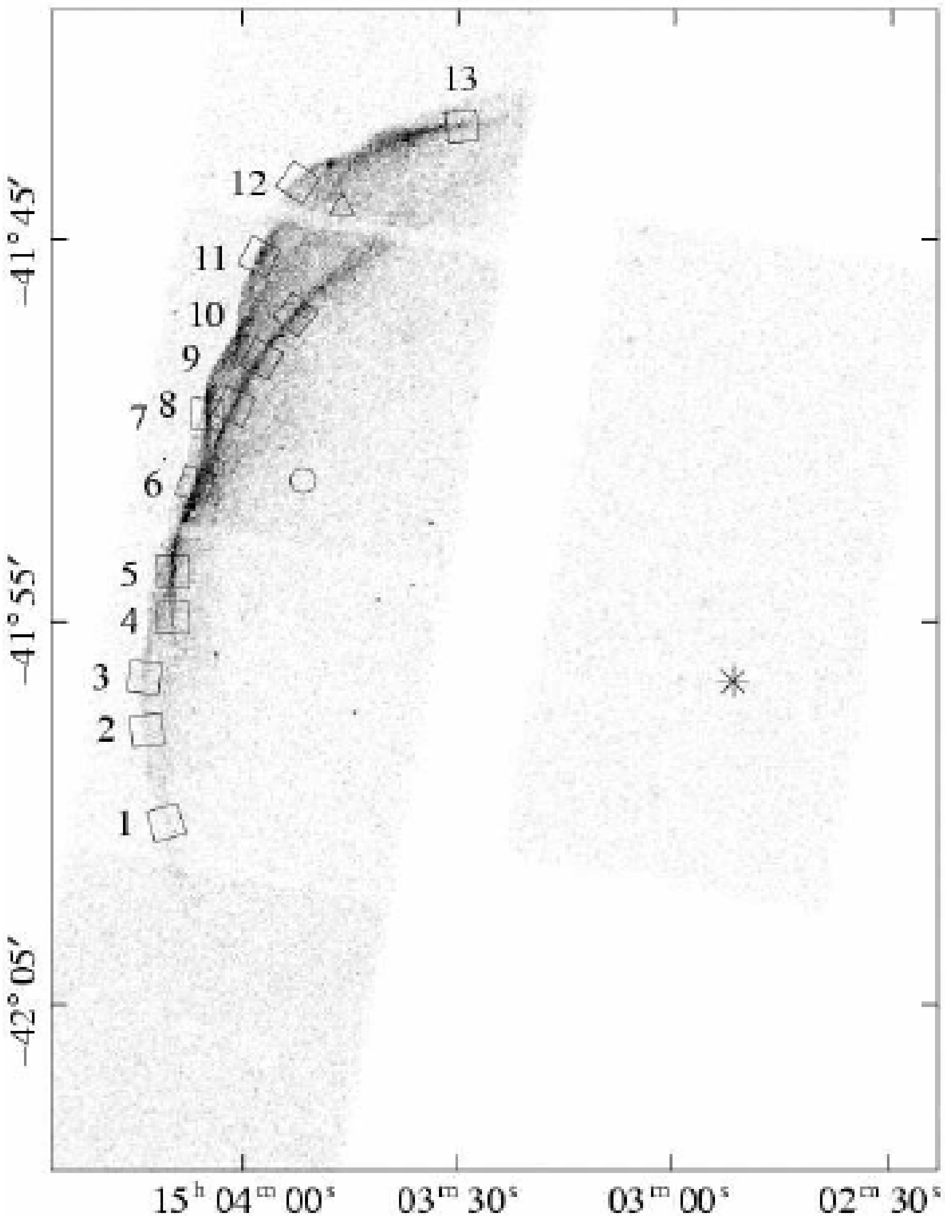
Extract spectra for each region.





Synchrotron emission

For an electron energy distribution of the form: $N(E) \sim E^{-p}$

Producing synchrotron emission in a magnetic field B,

The photon intensity distribution is of the form $I(\nu) \sim \nu^{-\alpha}$

Where $\alpha = (p-1)/2$

And the maximum photon energy is

$$E \approx (0.6\,\text{keV})\left(\frac{B}{\mu G}\right)\left(\frac{E}{100\,\text{TeV}}\right)^2$$

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Assume an electron spectrum of the form

$$\frac{dn}{dpc} = A\left(\frac{pc}{\mathrm{GeV}}\right)^{-\Gamma + a\log\left(\frac{pc}{\mathrm{GeV}}\right)} e^{\left(\frac{\mathrm{GeV}-E}{\epsilon}\right)}$$

and infer a magnetic field using a combination of TeV measurements (IC) and X-ray (synchrotron from same electrons).

Then calculate expected photon spectrum.

Find Γ ~ 2.2 and cutoff energy ~ 20 TeV.