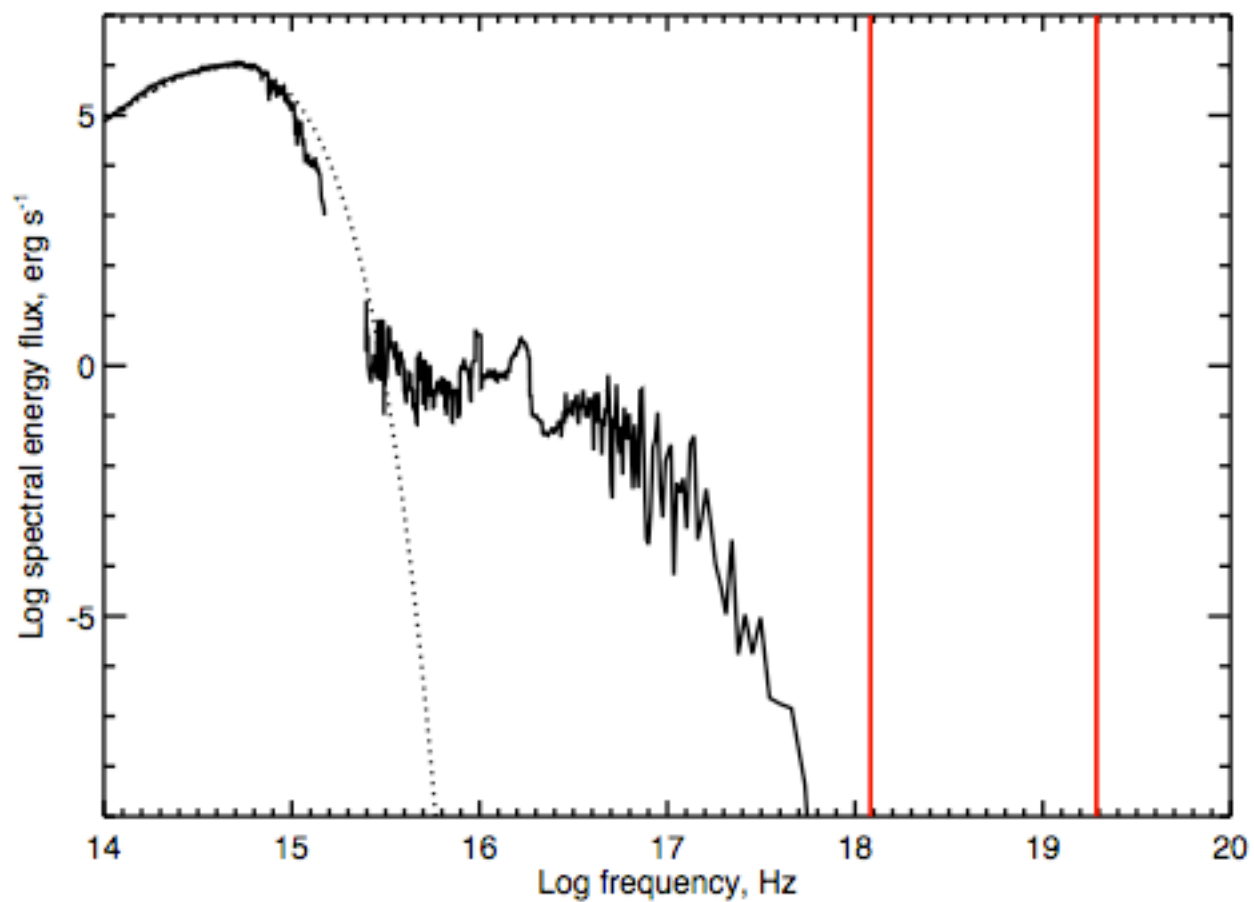


Hard X-rays from the quiet Sun

H. S. Hudson

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Quiet Sun SED

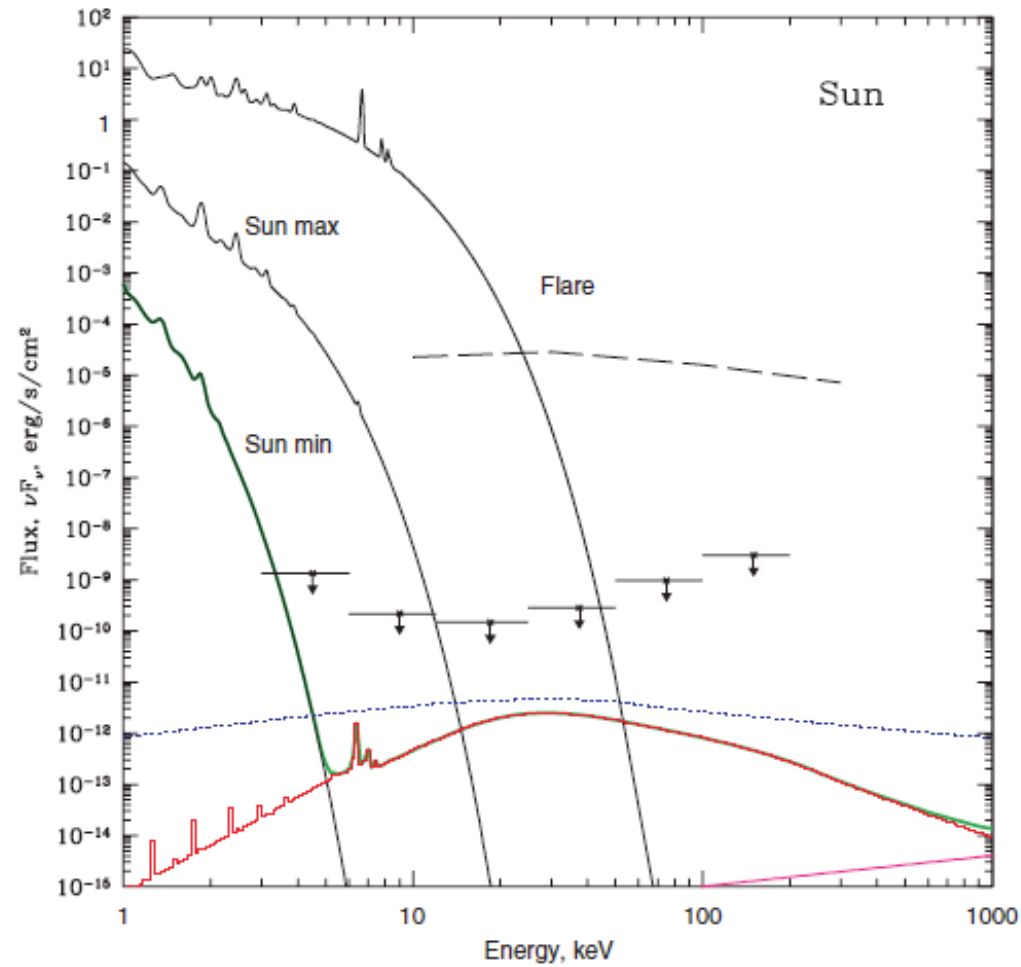


Exotic mechanisms

- Albedo from diffuse component (Churazov et al. 2008)
- Cosmic-ray secondaries (Seckel et al. 1991; MacKinnon 2007)
- *X-ray shadow*
- *Axions via Primakoff effect* (Carlson & Tseng 1996)*
- Inverse Compton source (Fermi γ -ray result)

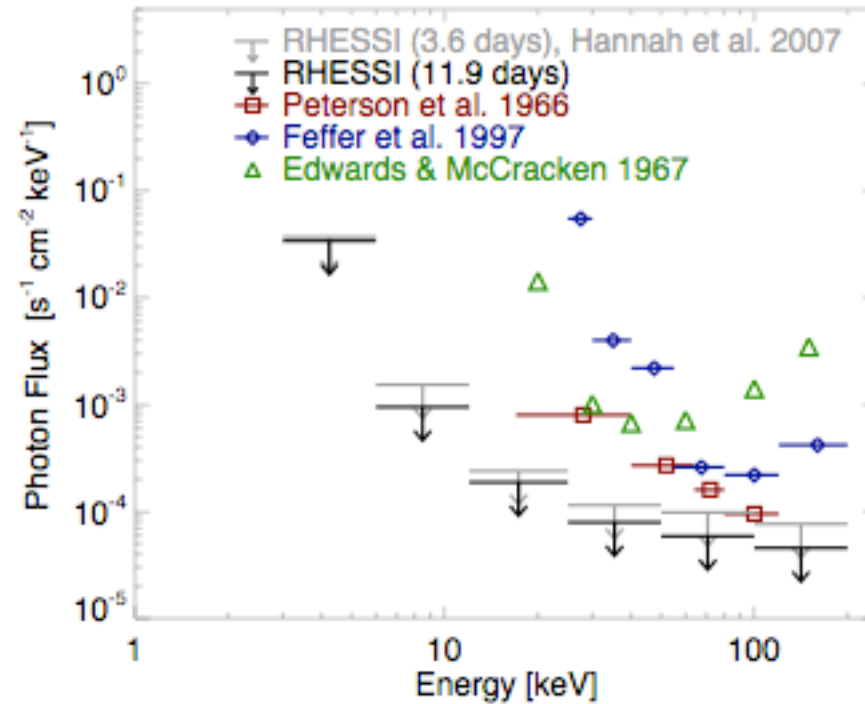
*http://sprg.ssl.berkeley.edu/~tohban/nuggets/?page=article&article_id=50

Albedo from diffuse component



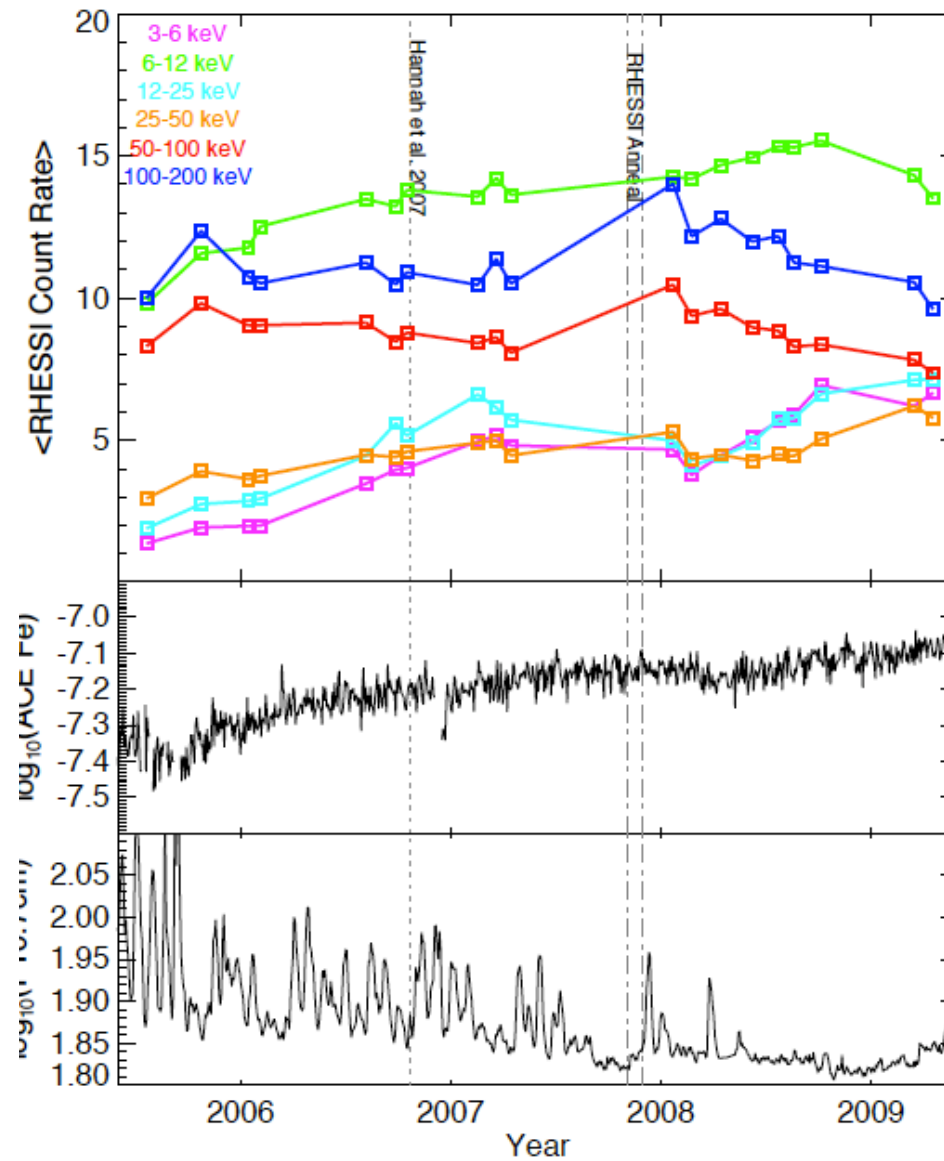
Churazov et al. 2008

Quiet Sun in hard X-rays, current limits

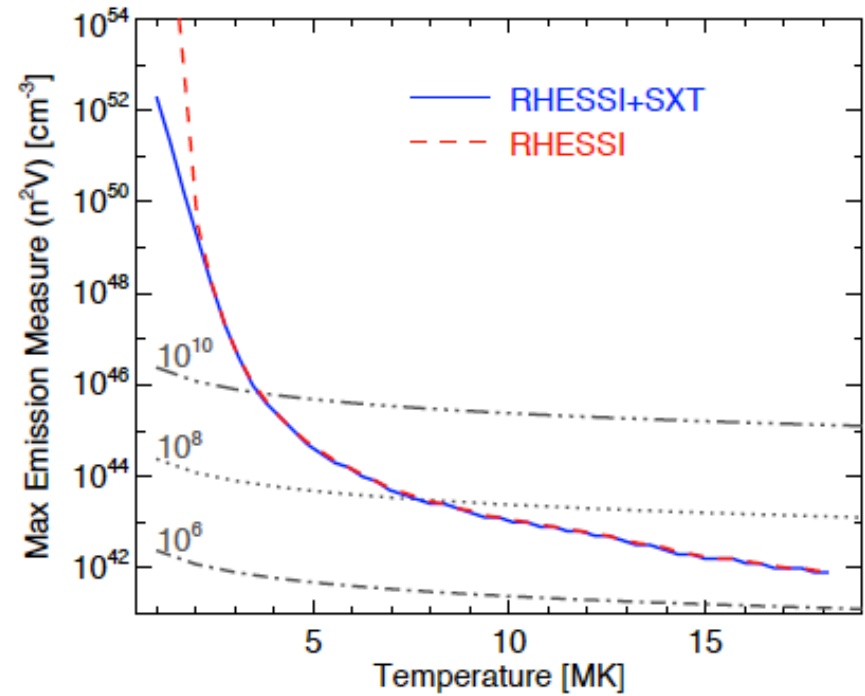
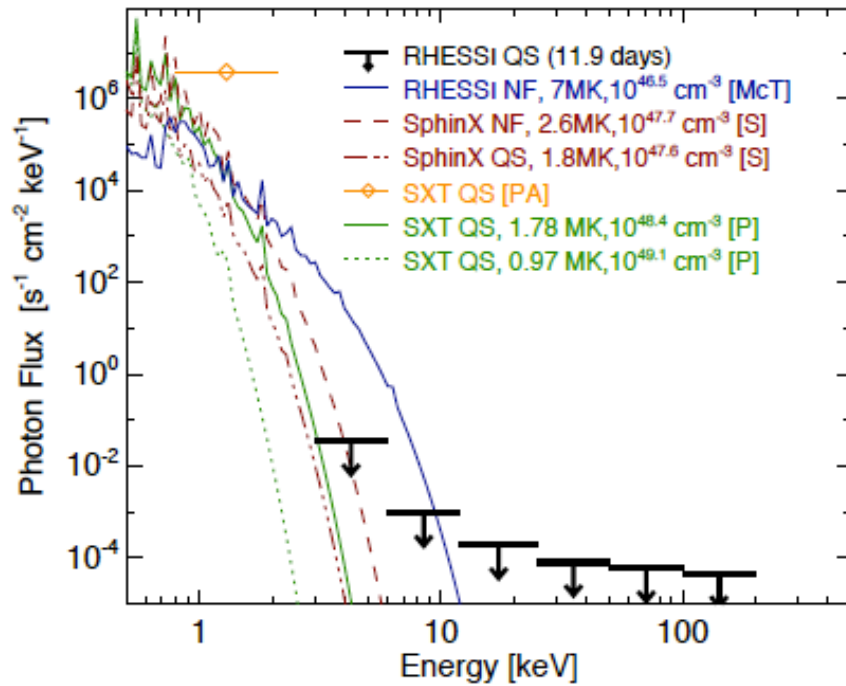


http://sprg.ssl.berkeley.edu/~tohban/wiki/index.php/Quiet_Sun_III

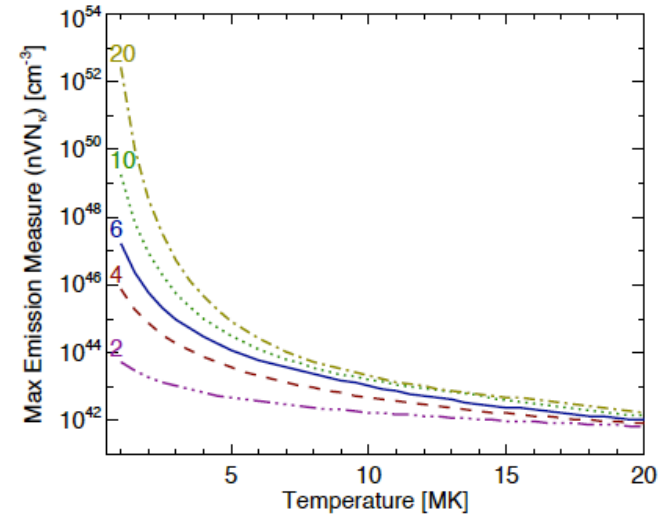
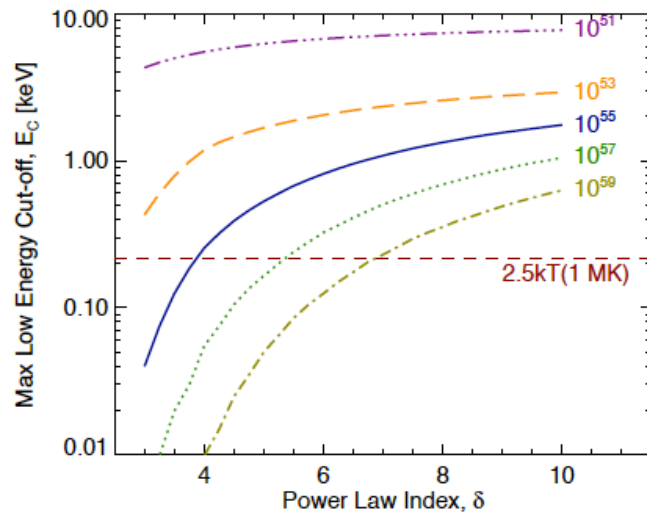
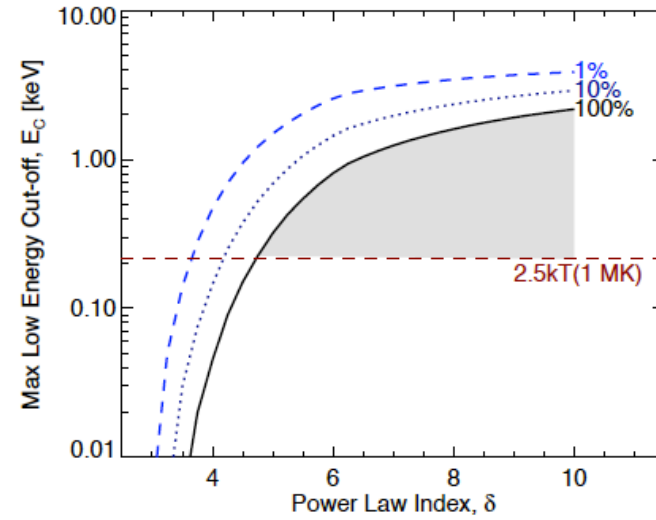
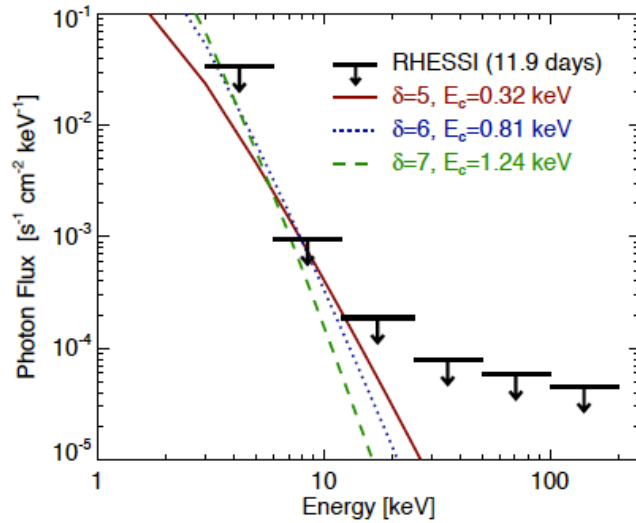
The tail-dragging program



The thermal limits



The non-thermal limits



Conclusions

- The RHESSI off-Sun experiments are complete
- We don't see any significant flux from the quiet Sun
- “Nanoflares” are not a favored explanation of coronal heating

<http://adsabs.harvard.edu/abs/2010arXiv1009.2918H>