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TITLE: Signatures for Low Energy Solar axions or the like.

ABSTRACT:

Diverse solar activity of hitherto unknown origin is associated with intense surface magnetic fields, being suggestive for an axion(-like) scenario, while inner solar magnetic fields have been ignored in all solar axion models. The magnetic outer sun is then a network of axion helioscopes filled with a dynamic plasma, becoming thus the closest ones to the solar axion source(s). A possible spatiotemporally occurring fine tuning with enhanced axion-photon conversion could result to an unexpected strong X-ray emission driving outwards solar plasma. Interestingly, such an otherwise mysterious behaviour is being observed since decades, asking for further theoretical and experimental work. First estimates of low energy axion fluxes will be presented, with/without taking into account inner solar magnetic fields. The predominantly soft solar X-ray emission of the quiet and the active sun alike might well point at an underlying extended solar axion source. This is reinforcing the need of low energy axion work in general, and, of solar axion searches with low-threshold detectors earth-bound or in orbit.