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White Dwarfs as Axion Probes

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Axions, if they exist, can be produced efficiently in white dwarfs, free-stream out of the star due to their weak interactions with matter, and then be converted to a photon in the stellar magnetosphere. X-ray telescope observations of these stars can provide strong constraints on the coupling to electromagnetism and matter. I discuss the results of the first dedicated observation of a magnetic white dwarf in hard X-rays, and what it tells us about axions.

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