

Heinrich Schwabe's Holistic Detective Agency

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We know that decadal solar and stellar brightness changes are intimately tied to the varying global-scale magnetic field. Exactly how this intimacy works remains a classic “Who-Dunnit”. Prof. Dynamo, the perpetrator responsible for Schwabe and Hale's magnetic sunspot cycle and the co-conspirator who converts the magnetic variations to brightness changes are still on-the-run. In 1987 the late Douglas Adams published his “thumping good detective-ghost-horror-who dunnit-time travel-romantic-musical-comedy-epic” from which the title of this talk was purloined. We argue that unsolved detective story of Prof. Dynamo has elements of “ghost-horror-time travel-comedic-epic”-ness about it. We also make the case that the search for Prof. Dynamo must be a holistic one. That is, we must not study the Sun in isolation. In this talk we will try to follow the scent using physical principles and data that are “Elementary”. We try to identify useful paths upon which to send in future sleuths and bloodhounds.