

Astronomy Talk 27th February 2018

Spectroscopy: Cracking starlight's hidden code

Like Chris Starr last month, Hugh Allen came from Wells & Mendip Astronomical Society to give us this talk. He has been an amateur astronomer for some years and, using his professional background in industrial chemistry, has worked on the light emissions passed through spectroscopes, to show the composition of various astronomical bodies using the light emitted or reflected from them.

He demonstrated a range of spectral analysers, from a simple slit device constructed from a cereal box to a sophisticated electronic device passing data to a laptop through a digital camera.

He showed the differences between angled prisms, narrow slits and diffraction gratings. He then discussed how scientists, including Newton and William Huggins achieved their findings. Until the adoption of narrow light slits, in the 0.5 to 1mm range, absorption and emission lines which indicate the presence of different elements were not known. If Newton had made a more limited slit aperture than the 6mm slit he used for admitting light to the prism, he might have been the first to notice these features.