

Astronomy Talk 22nd June 2021

Nuclear Fusion: Harnessing the Power of the Sun

Our speaker for this Zoom talk was Dr Chantal Nobs, Senior Radiometric Researcher working for UKAEA at the Culham Centre for Fusion Energy. There were 94 attendees.

Chantal talked through the history since WWII of devices that tried to make fusion work, including the infamous “Zeta” machine that didn’t deliver what was claimed. Her examples were mainly Tokamak machines, and she covered the JET (Joint European Torus) machine’s history in some detail, which is what she works with now. After JET which will be shut down in a few years, she went on to discuss the much larger ITER machine which is under development in France. All these are very international efforts, and the Brexit decision won’t affect the UK’s involvement.

She then looked at the decommissioning of JET and the planned way to handle the radioactive components, including use of robots.

The D-T reaction (deuterium tritium) reaction was looked at, as these are the easiest isotopes of hydrogen to fuse. Deuterium is readily available in water, but tritium supplies are a problem. Much of it comes from lithium, which is itself not a very common element.

After the talk there were many questions, which continued for almost as long as the talk itself. Clearly the audience was extremely interested in this subject.