

Mechanisms of Radio Wave Emission

1. From the website linked to the “Let’s look at the E/M spectrum” slide, write down one interesting fact about each of the following regions of the electromagnetic spectrum

Gamma Ray

X-ray

Ultra Violet

Visible

Infrared

Microwave

Radio

2. Radiation is sometimes broken down into two types, thermal and non-thermal. Light is sometimes associated with heat. Which of the following light sources is also a heat source?

Sun, Stars, Full Moon, Light Bulb, Fluorescent Light, Neon Sign, Television Screen, Flashlight, Fire

3. Match the following emission mechanisms with their description:

Blackbody Radiation

emitted by a gas of ions and electrons

Free-Free Emission

associated with magnetic field lines

Spectral Line Emission

caused by death of massive stars

Synchrotron Emission

occurs at all wavelengths

Geo-Synchrotron Emission

used to identify SiO in space

MASER

associated with electron transitions