

PULSARS



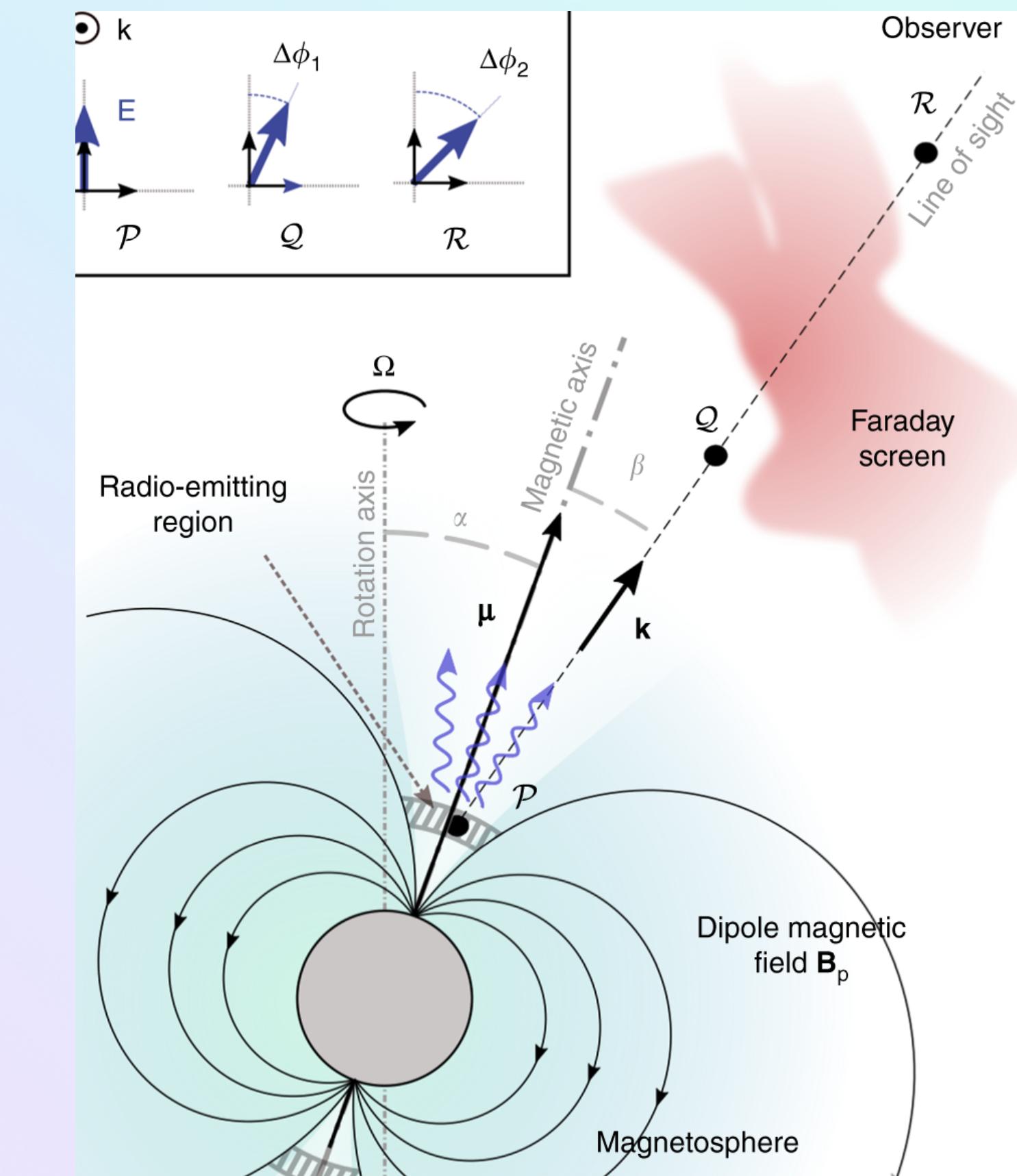
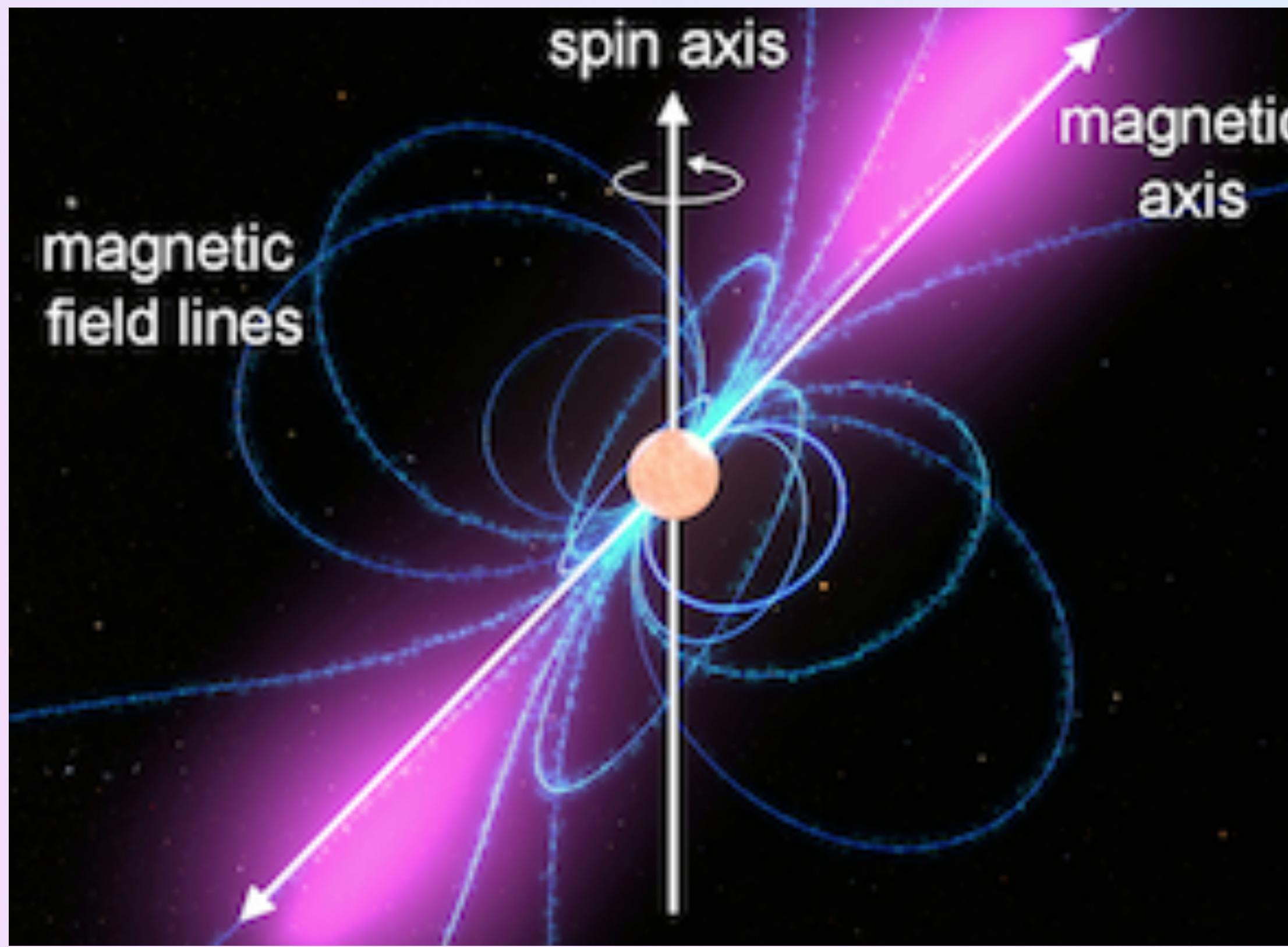
# **WHAT IS A PULSAR ????**



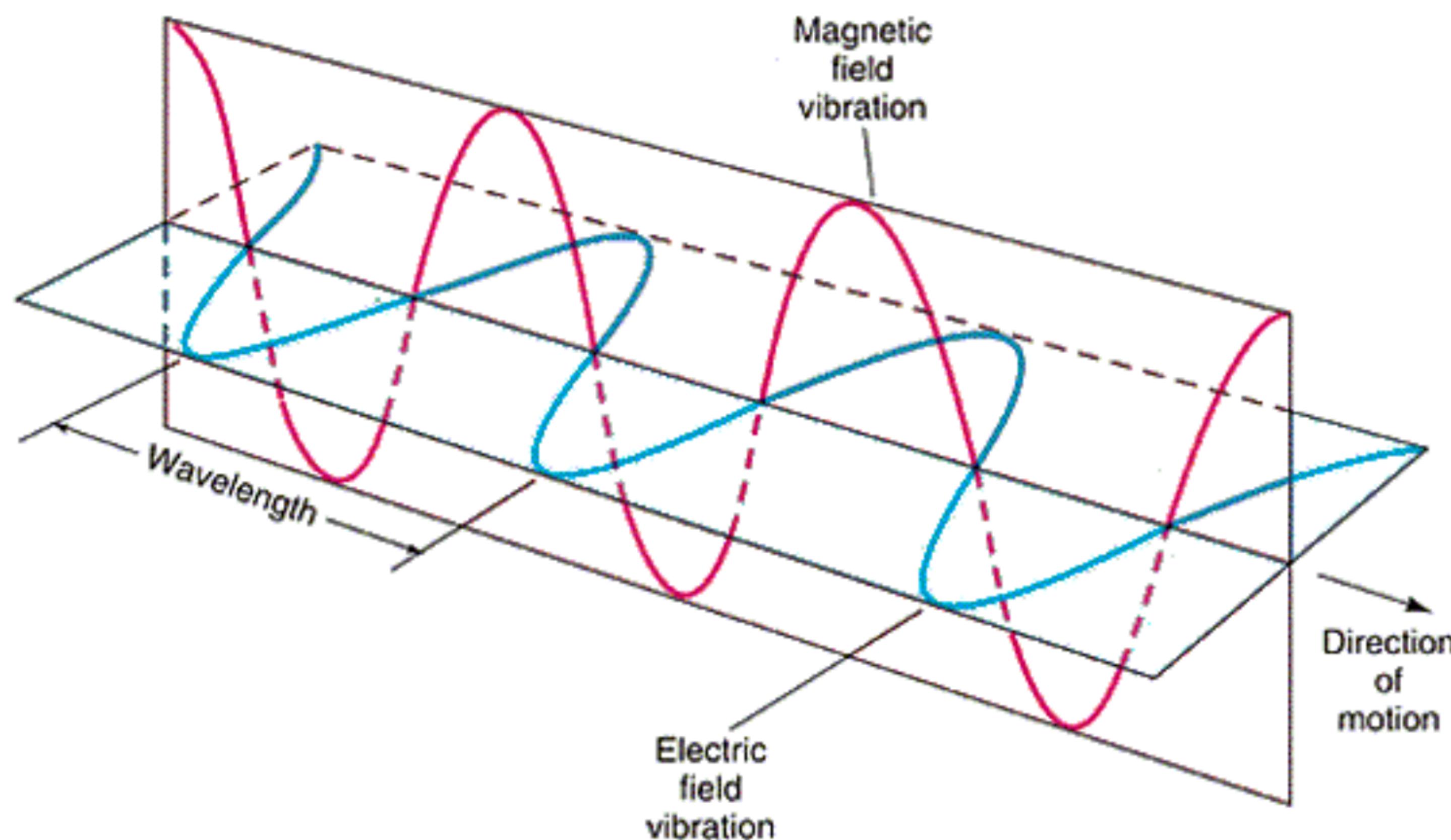
# **WHAT IS A PULSAR ???**



# THIS IS A PULSAR



# EM WAVE

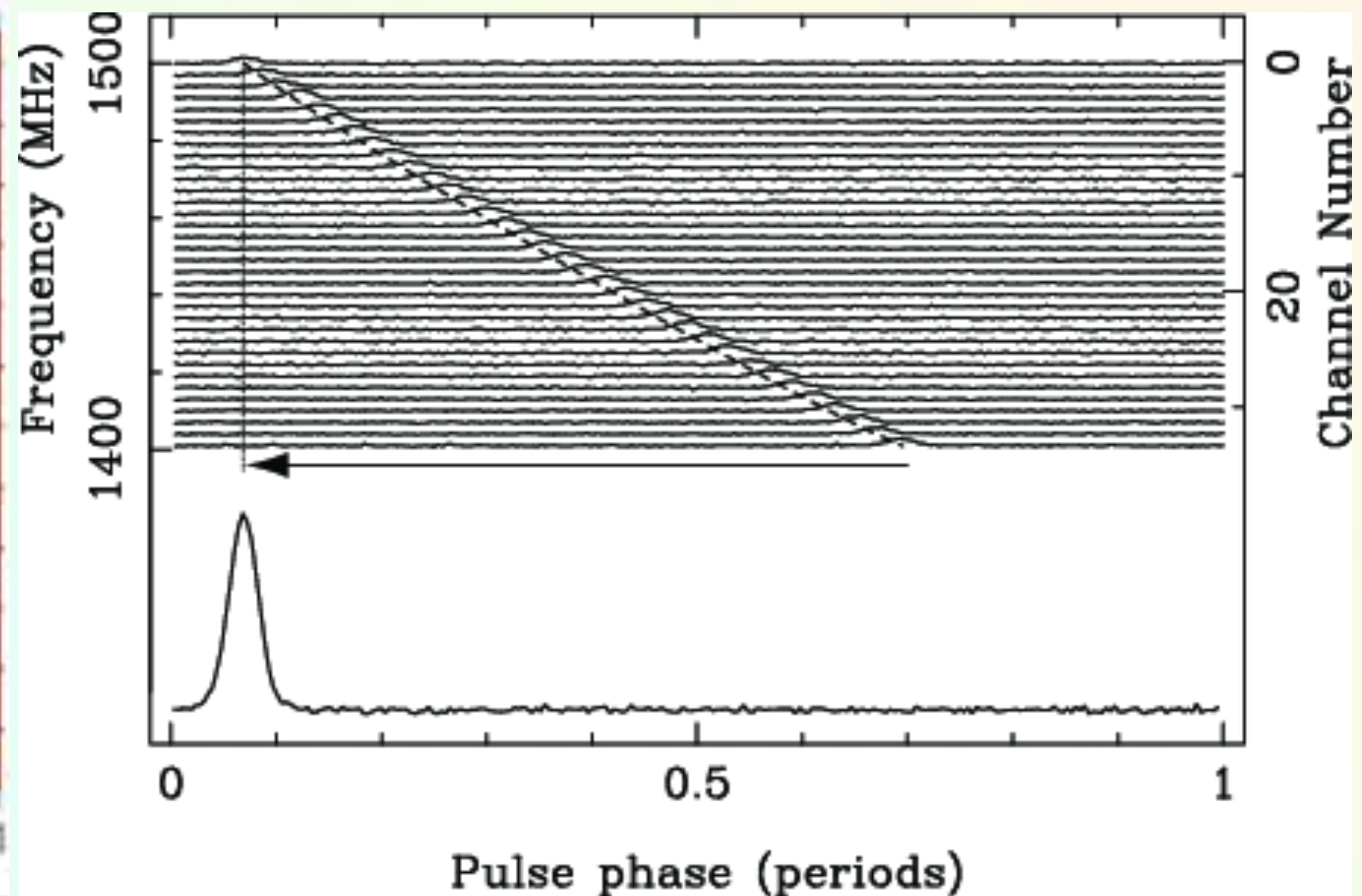
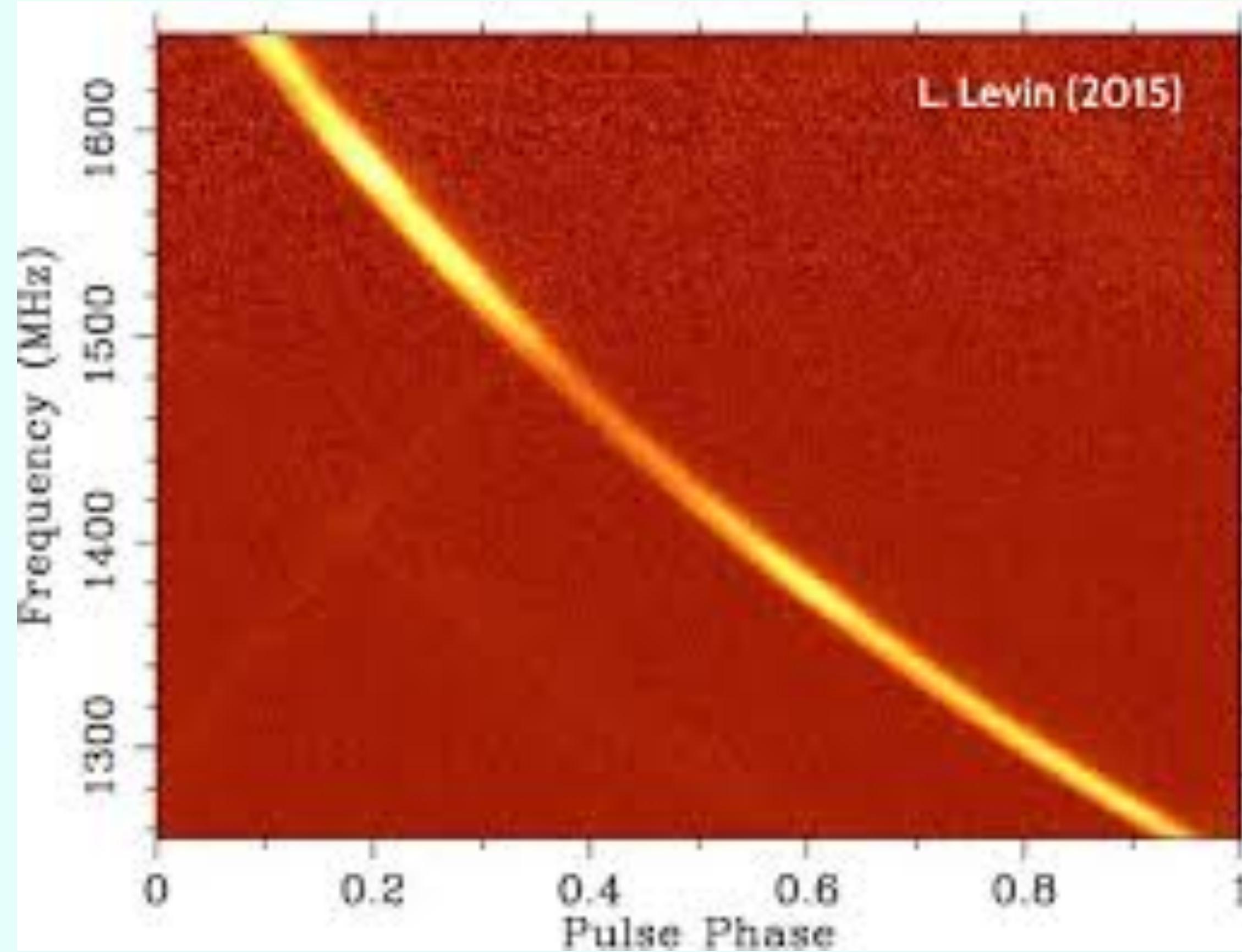


# DISPERSION MEASURE

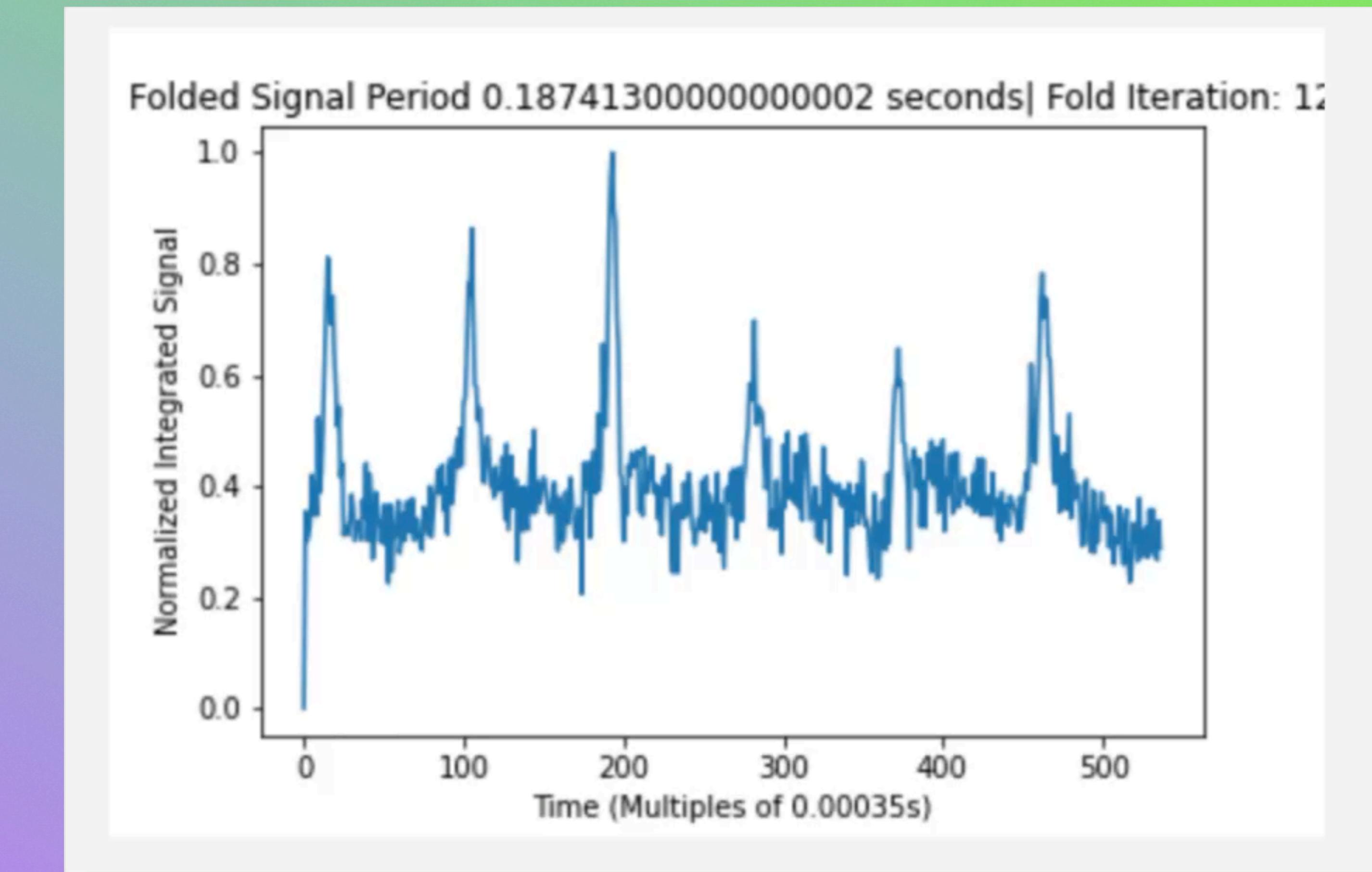
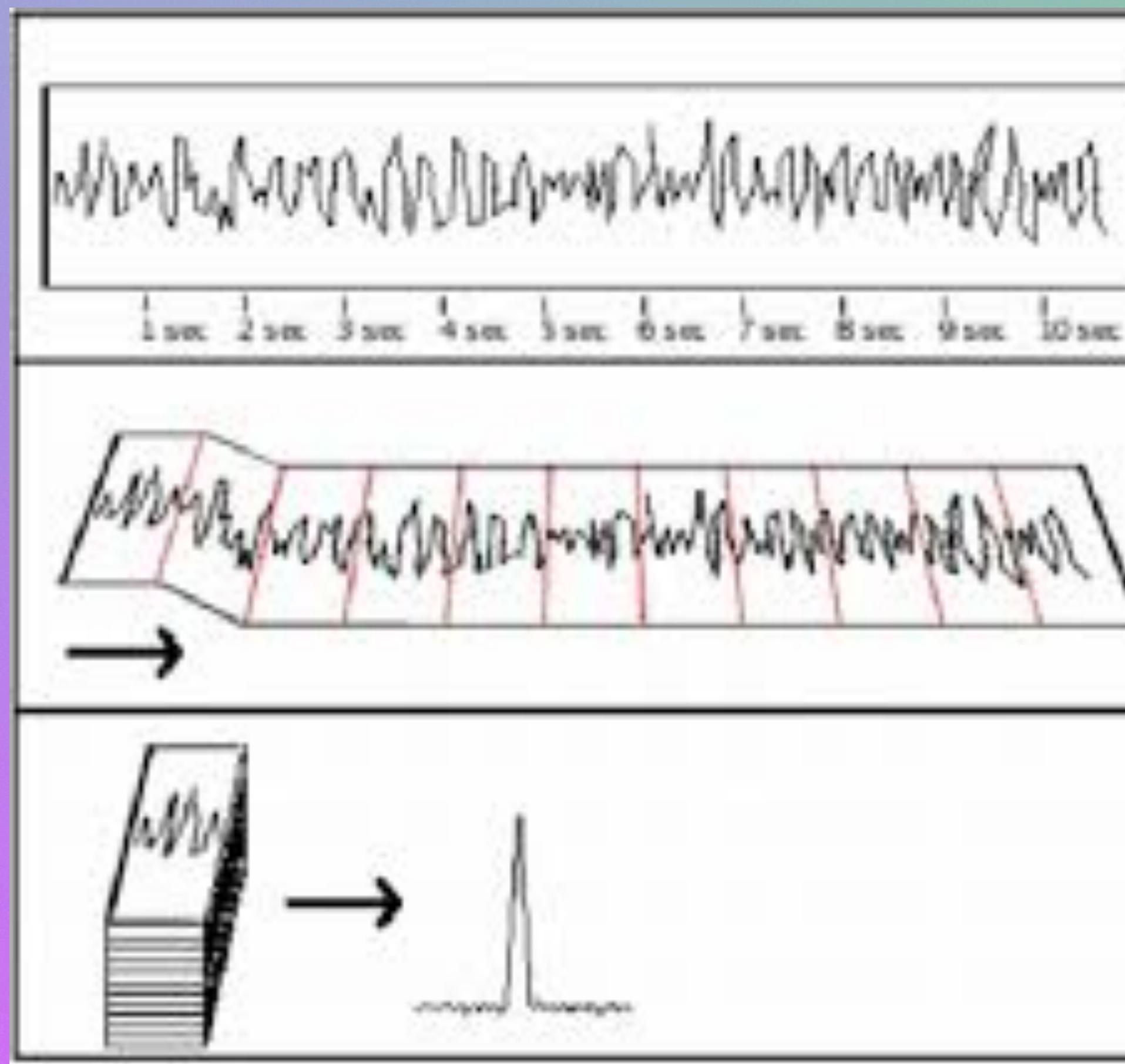
- \* **DM** is the “integrated column **density** of free **electrons** between an observer and a pulsar”
- \* Since radio waves are a very low frequency form of **light/electromagnetic radiation** (ie **photons**), they are nothing more than an oscillating electric and magnetic field.
- \* In the presence of charged particles such as **protons** and electrons, the electrostatic interaction between the light and the charged particles causes a delay in the propagation of the light, with the delay being a function of radio frequency and the masses of the charged particles.
- \* Similarly electrons react to the passing light more than protons due to their much lower masses and this causes greater delays in the light propagation time.

$$DM = (t_2 - t_1) / (4.15 \text{ ms}) [(\nu_1 / \text{GHz})^{-2} - (\nu_2 / \text{GHz})^{-2}]^{-1}$$

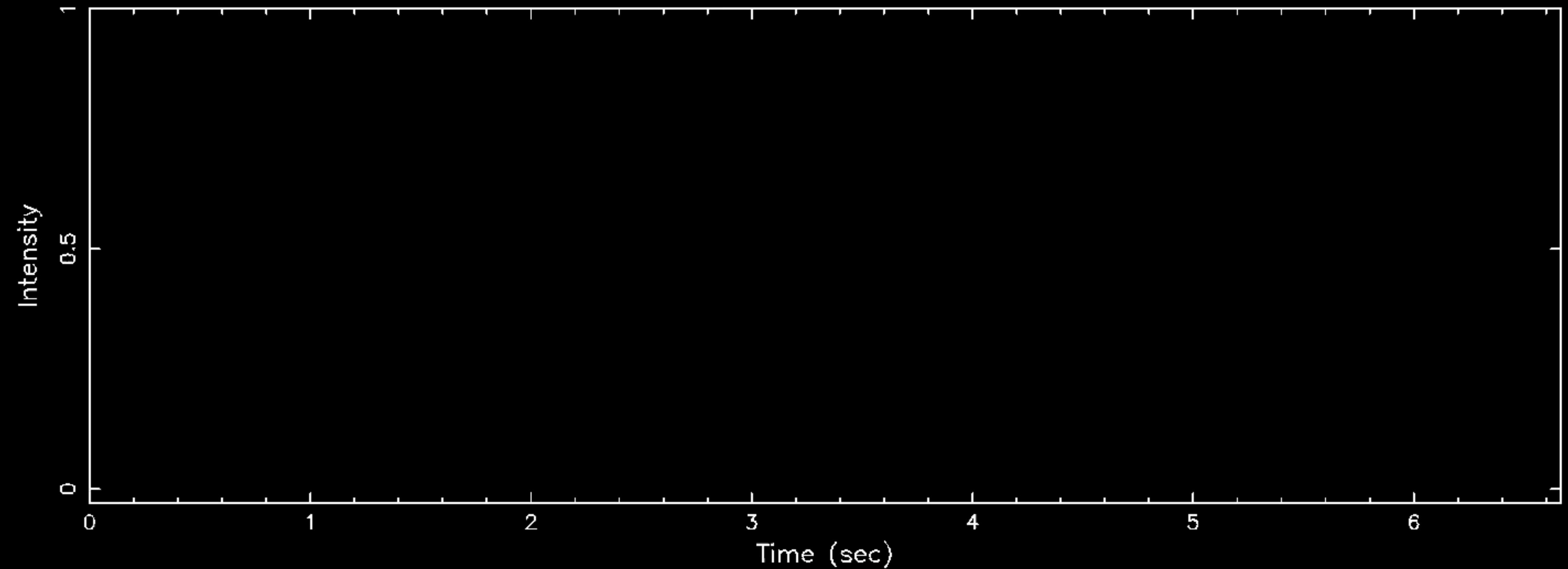
# DISPERSION MEASURE



# PULSAR FOLDING



Pulsar B0329+54 observed with the Lovell telescope at Jodrell Bank



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- \* DSPSR : <https://dpsr.sourceforge.net/>
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- \* GitHub : [https://github.com/Mahek566/RASS-Summer-School-Pulsar-Project.git.](https://github.com/Mahek566/RASS-Summer-School-Pulsar-Project.git)
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**THANK YOU !!!!!!!**

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- EPN Catalog: <https://psrweb.jb.man.ac.uk/epnadb/> rass@rrimail.rri.res.in [adi.agarwal732@gmail.com](mailto:adi.agarwal732@gmail.com)

 THANK YOU !!!!!!!