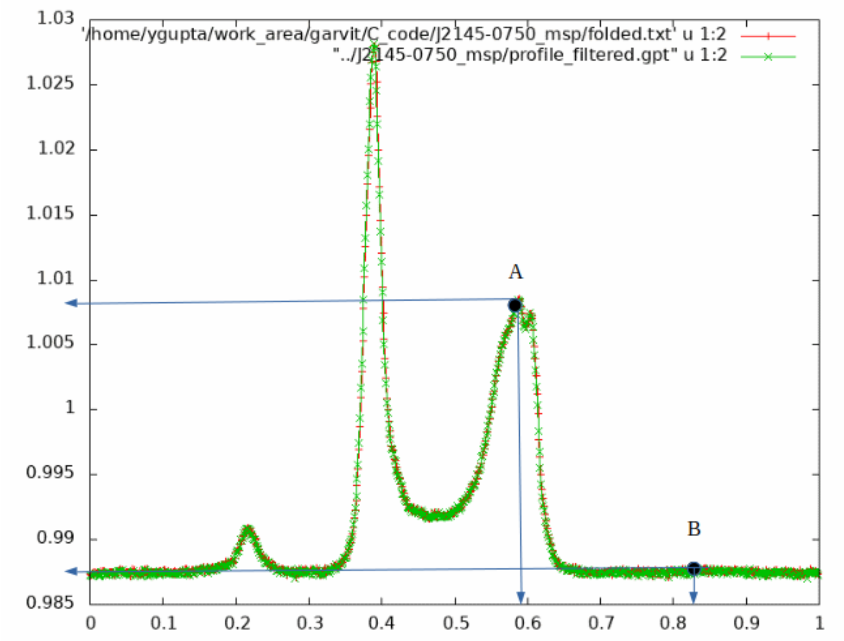
How can one find the absolute flux values of the pulsar profile, given the off-pulse noise temperature value?

Let the given off-pulse noise temperature value be T_{noise}. Let the image shown below be a single complete pulse window (not folded). Say we want to calculate the absolute spectral flux density value of the radiation from the pulsar at point A. From our data we can calculate the ratio r of the data value at A and an off-pulse point, which would represent only noise, like point B. So if the data value at point A is around 1.008 and at B it is 0.988, then the value of r will be 1.008/0.988.



So T_{noise} is directly related to the value at point B. Similar to T_{noise}, let T_{pulsar} be the temperature measure associated with the pulsar's power at point A delivered by the antenna to the receiver. Then T_{pulsar} would be related to the difference between the value at A and B. So we can say that

$$r = \frac{T_{pulsar} + T_{noise}}{T_{noise}} = \frac{T_{pulsar}}{T_{noise}} + 1 \tag{1}$$

This implies -

$$T_{pulsar} = T_{noise}(r - 1) \tag{2}$$

By definition $T_{pulsar} = P/k_B$ where P is the power contribution of the pulsar at point A in the receiver stage and k_B is the Boltzman's constant. Now if the absolute spectral flux density value of the pulsar at that instant is S, the effective aperture of the telescope is A_{eff} and the bandwidth at which we are observing is $\Delta\nu$, then we have-

$$P = S \cdot A_{eff} \cdot \Delta\nu \tag{3}$$

So given we have T_{noise}, we can calculate r at an instant (like A), and the absolute spectral flux density of the pulsar at that instant would be-

$$S = \frac{(r-1) \cdot T_{noise} \cdot k_B}{A_{eff} \cdot \Delta\nu} \tag{4}$$