**Homework PHY 554 #8. Due Nov. 22, 2023**

**1. (2 points):** Show that the longitudinal and transverse impedances satisfy

the following relations

 

 .

**2. (4 points)**

 Use the following identity

 ** ,**

to prove Poisson summation formula:

,

where  and  are Fourier pairs related by

 .

**3. (4 points)**

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Show the impedance of above circuit can be expressed as

  ,

and find the expression for  and  in terms of , , and .