**Generalized Poisson Equation of Electrodynamics**

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Poisson Equation: 





In general, for any vector field 



Take the gradient of Poisson eq. , and we have



because we write 

But the curl of  is the time derivative of the  field (eq. ),



and the time derivative of  is the displacement current (from eq. ,



which gives the

**GENERALIZED POISSON EQUATION OF ELECTRODYNAMICS**

