

1125-78-2646

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I will discuss the general problem of trying to find a three dimensional surface perpendicular to a vector field \mathbf{W} that has unit length. I will use the Euler-Lagrange equations for the cost functional

$$\mathfrak{F}(\sigma) = \iint_{\sigma} |\mathbf{W} - \hat{n}|^2 dS,$$

where σ is a surface with unit normals \hat{n} , to give a PDE for the surface. This PDE can be solved numerically, but is highly dependent on the boundary value conditions. Finally, I will show application of this method to the passenger-side mirror problem. (Received September 20, 2016)