## 2023-03-03

What is $\delta \rho(x)$ (taking variations just with respect to $x \in \mathbb{R}^{n}$ ) when

$$
\rho(x)=\frac{x^{T} K x}{x^{T} M x}
$$

where $K, M \in \mathbb{R}^{n \times n}$ are symmetric, $M$ is positive definite?

