## 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?