# 100 $ Prize

Let $A$, $V$ be a symmetric nnd matrices and let

$$AV \neq VA$$

For $\lambda \geq 0$ define a function

$$f(\lambda) = tr\left(\left(A - \lambda V\right)_+ V\right)$$

Is this function convex? Prove it or give counter-example

S. Gnot, G. Trenkler, R. Zmyślony, *Nonnegative minimum biased quadratic estimation in the linear regression models,* Journal of Multivariate Analysis 54 1 (1995), 113-125.