In last letter, my question is:

Why do you think (and that is right):

$$A_{opt} \in \mathcal{S} = \{\text{diagm}\}(m)\,\exp(Vu)$$

or at least A_{opt} is close to this $\mathcal{S}$?

In your note, you state that you do this but don't give a detailed explanation:

> The columns of V can be understood as basis functions for the spectral function. That is to say they span a so-called singular value space. And in the singular value space the spectrum can be parameterized through:
>
> $$A_l = D_l \exp\left(\sum_m V_{lm} u_m\right). \tag{14}$$
>
> We can easily prove that:
>
> $$\frac{\partial A_l}{\partial u_i} = D_l \exp\left(\sum_m V_{lm} u_m\right) V_{li} = A_l V_{li}. \tag{15}$$
>
> 4

So I want to know why you think this is a good parameterization form?