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*Stability of elliptic systems of PDEs*

I will discuss the question of stability (and instability) of systems of elliptic PDEs on compact Riemannian manifolds of the form

$$\Delta_g U + AU = |U|^{2^*-2}U$$

where  $2^* = \frac{2n}{n-2}$ ,  $U: M \mapsto \mathbb{R}^p$  and  $A$  is a symmetric  $p \times p$  matrix under small perturbations of this interaction matrix  $A$ . The aim is to recover the effects of the conformal almost-invariance of the lines of the system (which already appear in the study of the stability of one single equation) and to discover the effects of the interaction matrix  $A$ .