

**Weight Space Structure and Internal Representations: A Direct Approach  
to Learning and Generalization in Multilayer Neural Networks**  
[Phys. Rev. Lett. 75, 2432 (1995)]

Rémi Monasson and Riccardo Zecchina

Formulas (5) and (6) must be modified as

$$s(r) = -\frac{2^P}{Nr} \left[ V_G \ln \left( \sum_{\mathcal{I}} V_{\mathcal{I}}^r \right) \right] \quad (5)$$

and

$$s(r) = \text{Extr}_{p,q,q_*} \left\{ \frac{1-r}{2r} \ln(1-q_*) - \frac{1}{2r} \ln[1-q_* + r(q_* - q)] - \frac{q-p^2}{2[1-q_* + r(q_* - q)]} \right. \\ \left. - \frac{2\alpha}{r} \int \prod_{\ell=1}^K Dx_{\ell} \left[ \text{Tr}_{\{\tau_{\ell}\}} \prod_{\ell} H \left( \frac{\tau_{\ell} x_{\ell} p}{\sqrt{q_0 - p^2}} \right) \right] \ln \mathcal{H}(\{x_{\ell}\}) \right\}, \quad (6)$$

where the RS order parameter  $p(r)$  is the typical overlap between the teacher and the student and where  $1 + nr$  replicas have been introduced. Notice that all asymptotic results for a large number  $K$  of hidden units and the overall physical interpretations remain correct.