Perspectives with FINESSE: sensitivity to strange FF

We have considered, for the NuMi low–energy neutrino flux:

- The ratio of NC and CC elastic νp scattering

  1. It is sensitive to g_A^s, but not much affected by the cutoff mass of the axial form factors, assumed in the dipole form:

$$G_A(Q^2) = \frac{1.26}{\left(1 + Q^2/M_A^2\right)}, \; G_A^s(Q^2) = \frac{g_A^s}{\left(1 + Q^2/M_A^2\right)}$$

  2. Different parameterizations of the e.m. form factors do not sensibly affect the ratio
  3. The interference between axial and vector strange form factors (in particular: magnetic strange ff) can hinder the effetc of g_A^s alone.
  4. The sensitivity to the flux is negligible, because of ratio
  5. Nuclear effects (again negligible, because of ratio)

- The ratio of NC and CC elastic $\bar{\nu} p$ scattering (if possible, gives great complementary information)