

1. In the section 3.3, page 12, line 12: "The strength given to the horizontal constraints is based on experience". In both cases, the constraint factors are ~ 1 . Does it mean for different applications, the constraints should also be around 1? Please clarify.

We clarified and further explained the meaning of the constraint factors both in section 2.1 and 3.3

Section 2.1

"The geophysical voxel inversion is carried out on the logarithm of the resistivity values ($m = \log(\rho)$), and the constraints values are expressed in terms of constraint factors CFs , representing the relative strength of the constraints (Auken et al., 2014). The actual values of the constraint standard deviations $\sigma_{i,j}$ of eq. (1) and eq. (2) are then computed as $\sigma_{i,j} = \log(CF_{i,j})$. For instance, a constraint factor value of $CF_{i,j} = 1.9$ gives $(m_i - m_j)^2 / \sigma_{i,j}^2 = 1$ in eq. (1) when $\rho_i / \rho_j = 1.9$, i.e. when the resistivity values are 90% different (Vignoli et al. 2015)."

Section 3.3

"All the constraints values used in this study represent typical values working also in other applications, both for synthetic and filed data."

2. Page 36, Figure 4. Figure label: green curve should be "sharp inversion"

Done