

$$\tilde{u} = \frac{1}{\sum_{L=1}^{PBL} \Delta\sigma_F(L)} \sum_{L=1}^{PBL} u_L \cdot \Delta\sigma_F(L) \quad (1a)$$

$$\tilde{v} = \frac{1}{\sum_{L=1}^{PBL} \Delta\sigma_F(L)} \sum_{L=1}^{PBL} v_L \cdot \Delta\sigma_F(L) \quad (1b)$$