

We associate to every function $u \in \text{GBD}(\Omega)$ a bounded Radon measure μ_u with values in the space of symmetric matrices, which generalises the distributional symmetric gradient E_u defined for functions of bounded deformation. We show that this measure μ_u admits a decomposition as the sum of three mutually singular matrix-valued measures μ_{au} , μ_{cu} , and μ_{ju} , the absolutely continuous part, the Cantor part, and the jump part, as in the case of $\text{BD}(\Omega)$ functions. We then characterise the space $\text{GSBD}(\Omega)$, originally defined only by slicing, as the space of functions $u \in \text{GBD}(\Omega)$ such that $\mu_{cu} = 0$. This is joint work with Gianni Dal Maso.