Upper and lower densities – Part II

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An upper density (on $\mathbb{Z}$) is a real-valued set function $\mu^\star$ on the power set of $\mathbb{Z}$ that is monotonic, subadditive, (-1)-homogeneous, and translational invariant, and for which $\mu^\star(\mathbb{Z}) = 1$. In this talk, we will prove that the image of the density induced by an upper density is the whole interval $[0, 1]$, study if specific sets X of integers are *meager*, namely $\mu^\star(X) = 0$ for every upper density $\mu^\star$, and discuss various "structural properties" of upper and lower densities. If time permits, we will also present a list of open questions.