

TOPOLOGICAL STRUCTURE OF MOMENTUM  
SPACE IN HIGH-ENERGY REGION

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Proceeding from the base notions of general topology, we show the existence of three different quantum field theories. Thus, the existence of two new wave mechanics beside the well-known Schrodinger one and non-closedness of the latter are a highly general mathematical fact. Here, we investigate the connection between the configuration and momentum spaces at high energies. Our consideration is limited by momentum spaces which are Euclidean in asymptotics (in the neighbourhood of the infinite distant point) and have some symmetry properties. In this case, both the symmetry group and harmonic analysis on such a space are very simple.