

# THE $\alpha$ -PARTICLES CONFINEMENT IN ZERO AND FINITE $\beta$ MIRROR-TYPE STELLARATORS

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Helical magnetic systems with poloidal direction of the lines  $B = \text{constant}$  on the magnetic surfaces are investigated to clarify in more detail the connection between the shape of the magnetic surfaces and the topology of the  $B = \text{constant}$  surfaces on the one hand and particle confinement on the other. The possibilities to fulfil the pseudosymmetry condition as well as the condition that the second adiabatic invariant  $J_{\parallel}$  forms closed contours are investigated numerically for almost zero and finite  $\beta$  values.