

SCALAR FIELD POTENTIAL DISTRIBUTION
FOR A “THICK” NULL STRING
OF CONSTANT RADIUS

O.P. Lelyakov

V.I. Vernadskyi Taurida National University
(4, Vernadskyi Ave., Simferopol 95007, Ukraine)

S u m m a r y

The general form of the scalar field potential distribution for a “thick” null string of constant radius moving along the axis z and completely lying in a plane orthogonal to this axis at every time moment is proposed. The conditions, under which a contraction of the field to a one-dimensional object (circle of radius R) results in the asymptotic coincidence of components of the energy-momentum tensor of a scalar field with those of a closed null string of the same radius, are found.