

Design and Development of a New Physical Model of Strip Footings on Reinforced Soil Media under Cyclic Loadings

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ABSTRACT

To design the engineering structures properly, some relevant information is required main part of which can only be obtained from modeling them. Physical modeling, if carried out carefully, can present such valuable information in connection with structural behaviors that may implement to calibrate the numerical modeling or to verify the designing assumptions. In geotechnical problems however, the physical modeling, due to their inherent complexity and dependency to many factors, are of great importance and may submit very useful and crucial data.

In this paper, a new physical model capable for studying the behavior of strip footings on reinforced soil under monotonic and cyclic loadings is presented. The design criteria and specification of different

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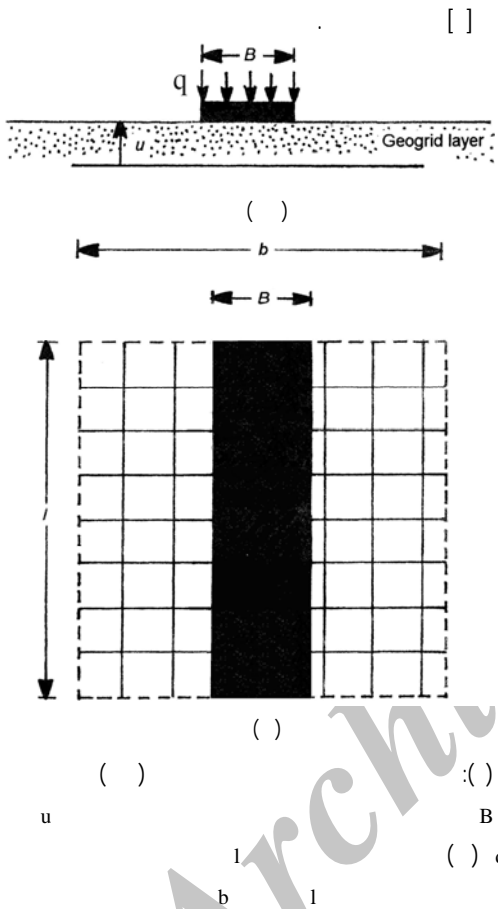
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parts of the model are explained and discussed. In order to control the ability and accuracy of the model, regarding the responses of strip footings subjected to different static and cyclic loadings, the results of some tests have been compared with other empirical and theoretical data. The consistency between the results shows the reliability of the developed model.

KEYWORDS

Physical Modeling, Bearing capacity, Strip Footing, Cyclic Loading, Permanent Settlement



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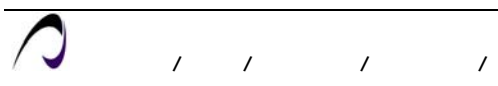
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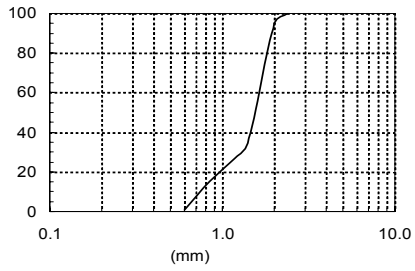
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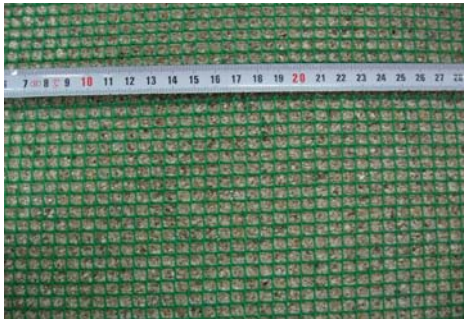
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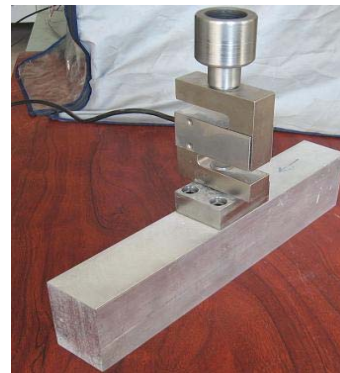


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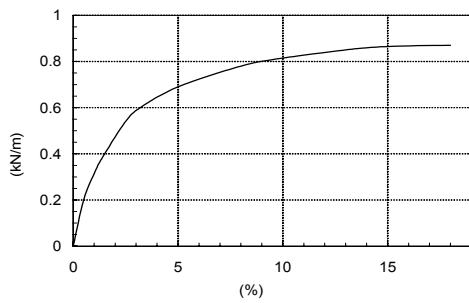
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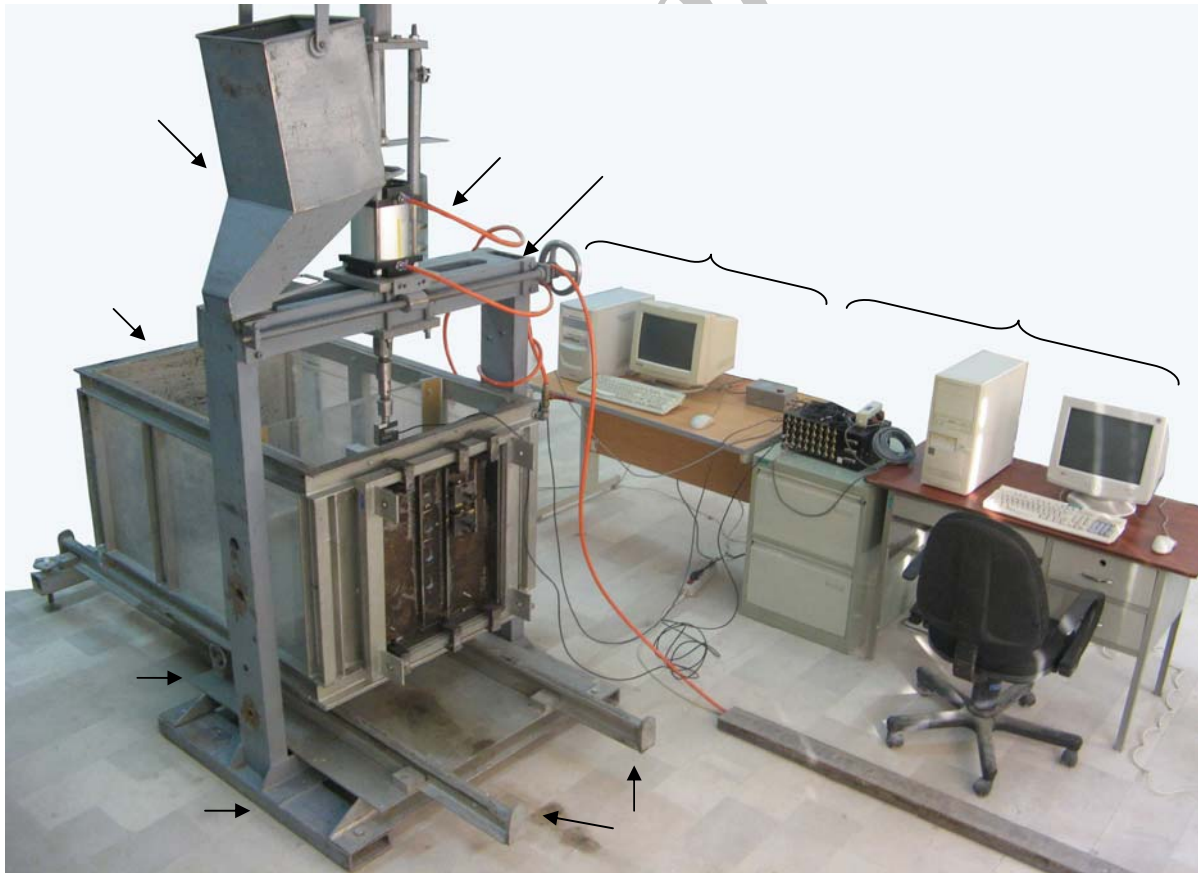
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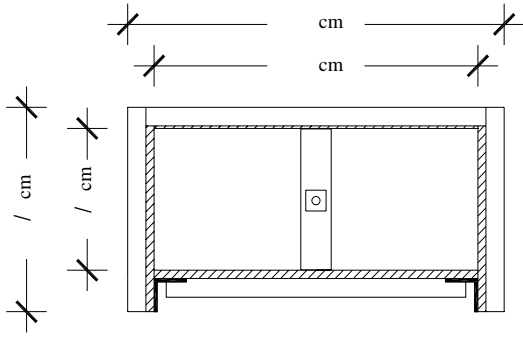
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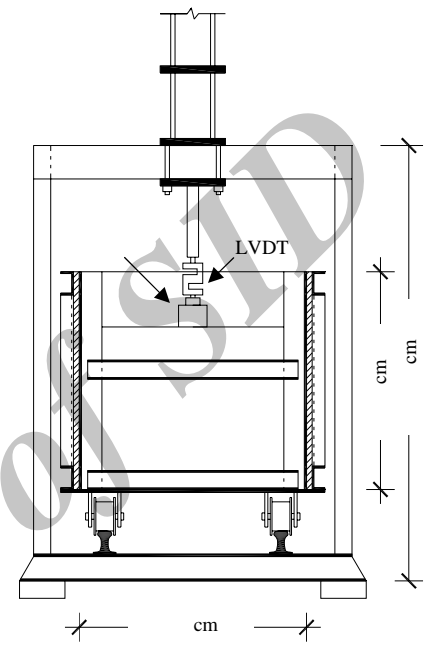
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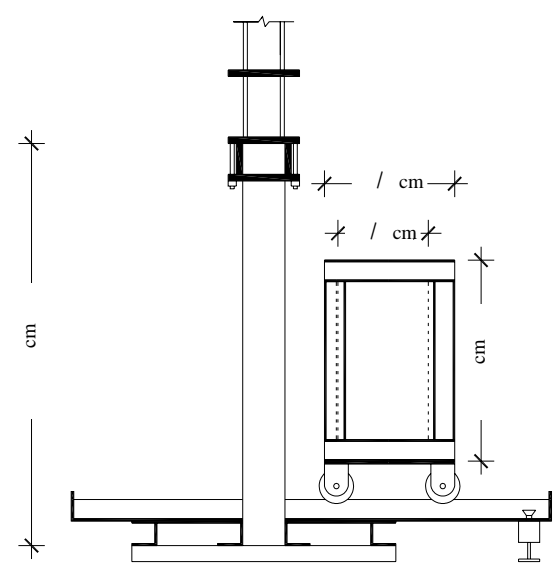


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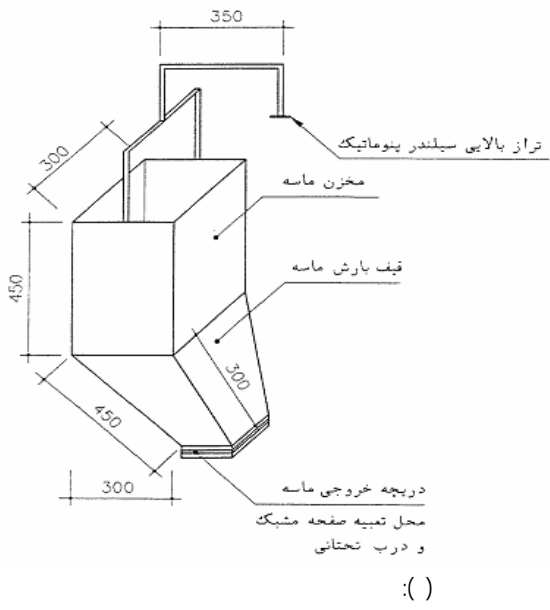
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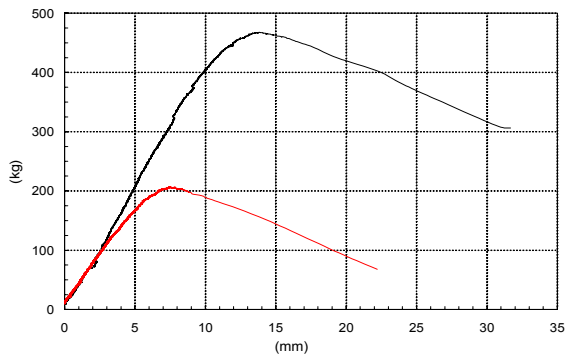
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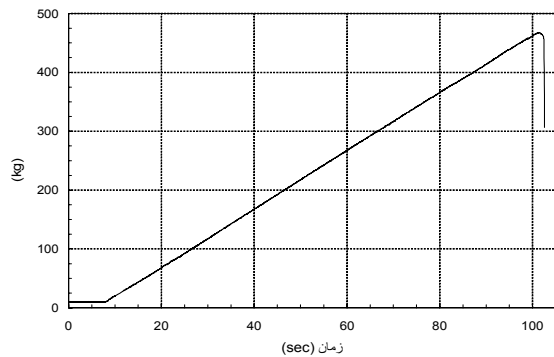
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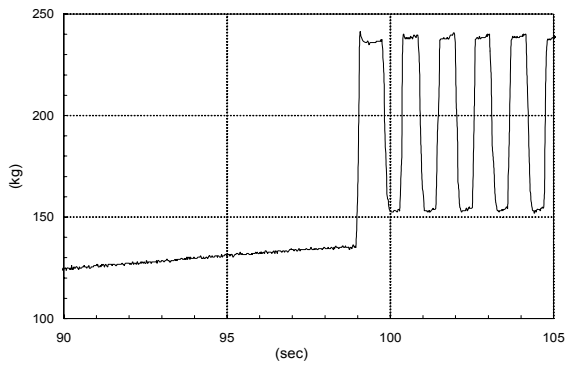
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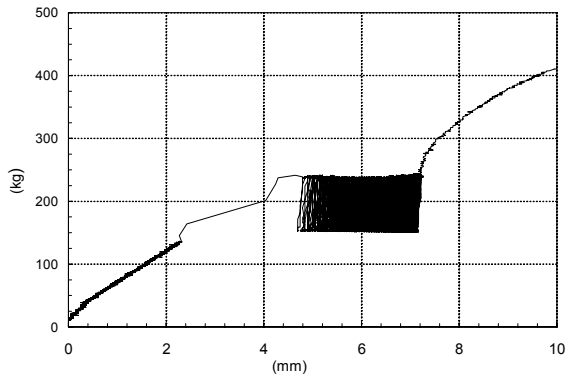
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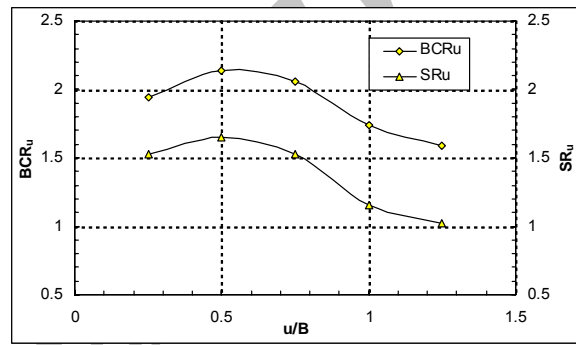
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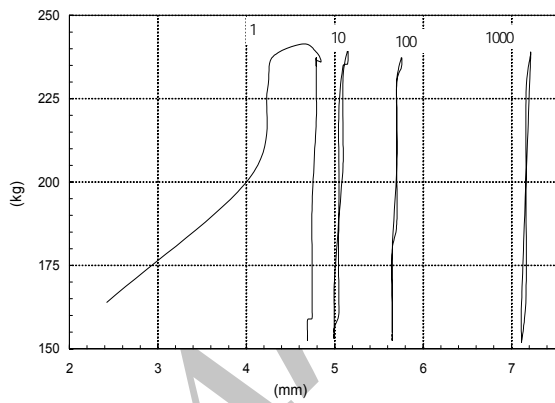


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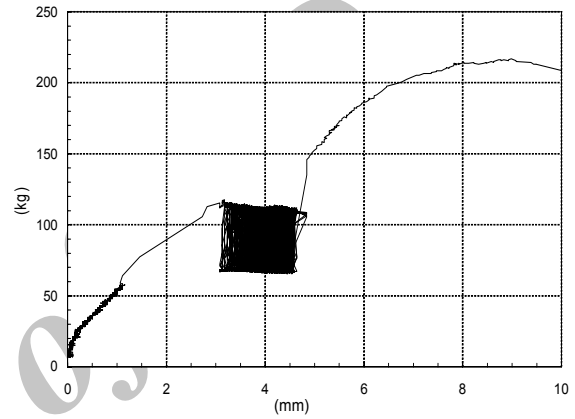
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S_R/S_{UR} (%)	$S_{UR}/(S_u)_{UR}$ (%)	$S_R/(S_u)_R$ (%)	
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