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(51) International classification	:G01N0027220000, G01N0033240000, A01G0025160000, H05K0001160000, G01N0022040000	(71)Name of Applicant : <b>1)Rajagopal Kumar</b> Address of Applicant :National Institute of Technology, Chumukedima, Dimapur, Pin code - 797103, Nagaland, India <b>2)Siddhanta Borah</b> <b>3)Subhradip Mukherjee</b> <b>4)S. K. Sathya Lakshmi Preeth</b> <b>5)Panwala Fenil Chetan Kumar</b>
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(57) Abstract :

POCKET SOIL MOISTURE SENSOR (P-SMS) Soil moisture is one of the essential parameter for the proper growth of crops in agricultural commodities. Most of the available soil moisture measuring device needs complex calibration and setup. So, this present invention mainly focuses on design a compact and ease of installation/use device to measure soil moisture precisely. For that, an interdigital capacitive sensor probe is designed and developed using PCB (Printed Circuit Board) Technology. The design sensor probe is calibrated for all the category of soil. A goodness of fit of 0.98 (average) is obtained for the capacitance and voltage responses. To measure the soil moisture effectively on the basis of soil type an algorithm entitled "Soil Dependent Moisture (SDM)" \* has been implemented in the system.

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**COMPLETE SPECIFICATION**  
(Section 10 and rule 13)

**TITLE**

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**“POCKET SOIL MOISTURE SENSOR (P-SMS)”**

**APPLICANT**

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The following specification particularly describes the nature of the  
invention and the manner in which it is to be performed