

Moisture Sensor: measuring moist and wet

Keywords: Dew condensation, Nano/micro water droplet, Small sensor

Jin Kawakita

Managing Director, Center for Functional Sensor & Actuator

KAWAKITA.Jin@nims.go.jp | https://samurai.nims.go.jp/profiles/kawakita_jin?locale=en

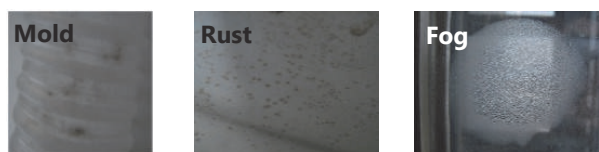


Background Upon detection of dew condensation causing mold, rust, fog, etc., it is important to measure moist and wet states (presence of small water under high humidity) while impossible for conventional hygrometer and dew detector. Small sensor was developed, which detects nano/micro droplet with high accuracy, sensitivity and speed.

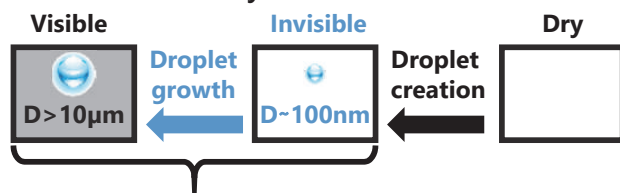
Aim This moisture sensor detects aqua droplet (0.5 μm in minimum size), which is impossible for hygrometer and over 100 times more accurately than dew detector. It responds within 0.02 sec over 10 times more quickly than hygrometer. Sensor chip, measurement device and data acquisition system are providable.

Advanced Research Topics

Measuring moist and wet



Caused by dew condensation



😊 It is important to measure moist and wet states (presence of small water under high humidity).

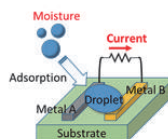
☹ Conventional hygrometer and dew detector cannot detect small water.

Publications

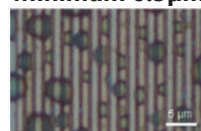
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- J. Kawakita, Chem. Sensors, Vol. 31, No.4 (2015) pp. 116-119.
- J. Kawakita et al., WO2015JP70692A, 2016-01-28. <Patent Application>

Moisture Sensor

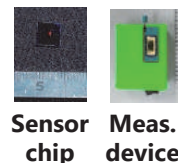
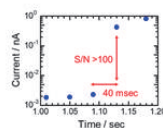
Working principle



Droplet detection Minimum 0.5 μm

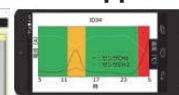
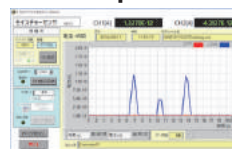


Quick response < 0.02s



Sensor chip Meas. device

Data acquisition software apps



Evaluation kit, providable

Applied area and future prospects

- Infrastructure, mobility, house/office, logistics, agriculture, beauty, health, medical, food, fiber, paper, plastic
- Networking of moisture sensor (IoT)

Issues for technology transfer

- Development of unmet needs
- Algorithm for each application
- Customization of sensor chip and meas. device