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## Infrared Drying Characteristics of Wet Porous Materials

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Our attention was focused on the factors influencing the drying characteristics of wet porous materials in consideration of the sample structure and the radiative heat source. By selecting three kinds of membrane filters, we examined the effects of the mean pore diameter, the irradiation power and its spectral distribution as variables using a far-infrared (FIR) heater and a near-infrared (NIR) heater. As a result, the drying characteristics were influenced by the mean pore diameter, and the FIR drying rate was faster than the NIR drying rate. In addition, we examined the relationship between the drying characteristics and the apparent optical properties of the drying sample. Consequently the results suggested that the diffuse reflectance of the membrane filter obtained in the present experiments was applicable to analyze the infrared drying characteristics. Moreover, we deliberated that it was possible to simulate the infrared drying characteristics by understanding the optical properties.

**Keywords:** [infrared drying](#), [porous material](#), [membrane filter](#), [radiative heat transfer](#), [diffuse reflectance](#)



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