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Composition of Dark Spots in Mars' Richardson Crater from the Analysis of HiRISE Images

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The composition of ephemeral dark spots found on the surface of Mars' Richardson Crater (72 S, 179 E) during the spring is addressed in this work. An atmospheric correction in the BG (400-600 nm), RED (550-850 nm) and NIR (800-1100 nm) has been performed on some RDR HiRISE images to calculate the surface albedo. This correction accounts for the impact on the measurements at satellite of dust, CO_2, water vapor, and water ice. Results indicate that ephemeral dark spots are formed by water ice and dust, and rule out the presence of salty water.

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