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Continued Fraction Proofs of m -versions of Some Identities of Rogers-Ramanujan-Slater Type.

We derive two general transformations for certain basic hypergeometric series from the recurrence formulae for the partial numerators and denominators of two q -continued fractions previously investigated by the authors.

By then specializing certain free parameters in these transformations, and employing various identities of Rogers-Ramanujan type, we derive m -versions of these identities. Some of the identities thus found are new, and some have been derived previously by other authors, using different methods.

By applying certain transformations due to Watson, Heine and Ramanujan, we derive still more examples of such m -versions of Rogers-Ramanujan-type identities. (Received September 10, 2010)