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FOUR DIMENSIONAL LOGARITHMIC TRANSFORMATION INTO $\mathscr{L}_u$

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Abstract. Let $t=(t_m)$ and $\overline{t}=(\overline{t}_n)$ be two null sequences in the interval $(0,1)$ and define the four dimensional logarithmic matrix $L_{t,\overline{t}}=(a_{mnkl}^{t,\overline{t}})$ by

$$a_{mnkl}^{t,\overline{t}}=\frac{1}{\log(1-t_m)\log(1-\overline{t}_n)}\frac{1}{(k+1)(l+1)}t_m^{k+1}(\overline{t}_n)^{l+1}.$$

The matrix $L_{t,\overline{t}}$ determines a sequence -to-sequence variant of classicial logarithmic summability method. The aim of this paper is to study these transformations to be $\mathscr{L}_u-\mathscr{L}_u$ summability methods.

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