Interactive comment on “Technical note: Recursive rediscretisation of geo-scientific data in the Modular Earth Submodel System (MESSy)” by P. Jöckel

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I very much appreciated the attempt to have a rigorous mathematical formulation of the regridding algorithm described in this paper. Nevertheless, the description seems to be misleading in one point. In equation (22), the author claims that $P_{\vec{n},\vec{m}}$ is the element-wise product of “sub-matrices” $P_{n_i,m_i}$, $i$ ranging from 1 to $K$. But, $P_{n_i,m_i}$ are elements of the sub-matrices that where not defined explicitly. The right-hand side should be interpreted as the multiplication of the matrix elements $P_{n_i,m_i}$ corresponding to the vector indices $(\vec{n}, \vec{m})$ and not as a element-wise multiplication of matrices.

The definitions at the beginning of section 2 may become clearer by explaining $A \subset R^K$.
as a collection of subsets $A_n$ such that $\cup A_n = A$ and $A_i \cap A_j = \emptyset$. The measure should be the Lebesgue measure.

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