These are the objects which are glued together to make twistor diagrams for higher-order amplitudes, i.e. correspond to the combination of the *off-shell* Feynman propagators in Feynman diagrams. One takes various possible periods of these integrals to obtain the amplitudes that arise when the external legs are specified to correspond to *free* in- or out-fields in the various possible channels. Thus I suggest that *these* are the objects that should correspond to the pieces of manifold that are in some sense glued together to build up higher-order Singer pictures. It seems to me therefore that a Singer picture should turn out to specify not an amplitude, but some functional (perhaps not very well defined) whose various *periods* would give the amplitudes in the various different possible channels. Note that inhomogeneity (the "k") and logarithmic propagators were essential in defining these "off-shell" diagrams. I suggest that corresponding [non-obvious] structures would have to be appear in any theory of manifolds which makes sense of the Singer pictures.

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Andrew Hodges

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