

# The energy-momentum density in premetric electrodynamics

Bernard Jancewicz

Institute of Theoretical Physics, University of Wrocław,

pl. Maksa Born 9, PL-50-204 Wrocław, Poland

email: bjan@ift.uni.wroc.pl

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## Abstract

The electromagnetic theory in large part is metric independent. It is called premetric electrodynamics. The energy-momentum density is a mapping of volume trivectors into one-forms. When  $F$  and  $G$  are well known two-forms describing the electromagnetic field,  $V$  is a volume trivector, the energy momentum density of the electromagnetic field is the following linear mapping  $V \rightarrow T(V) = \frac{1}{2} [G[(V[F]) - F[(V[G])]$ .