1053-30-374 **Frank Sommen*** (`fs@cage.ugent.be`). *Microlocalization using Clifford analysis.*

In earlier work we proved that every distribution or hyperfunction in R^m can be obtained as a boundary value $f(x+0) - f(x-0)$ of a function $f(x+xo)$ in $R^{m+1}\backslash R^m$ which satisfies the generalized Cauchy-Rieman equation $(\partial xo+\partial x)f(x+xo) = 0$ for monogenic functions.

In particular the delta distribution $d(x)$ is the boundary value of the Cauchy kernel $E(x + xo) = 1/Am + 1(xo - x)/|x + xo|^{m+1}$.

Microlocalisation involves a kind of non-linear Radon transform by which the delta distribution is decomposed further into distributions $D(x, w)$ which are singular in the origin and in the direction w (w belongs to the unit sphere); these functions are used to study wavefront sets and micro-supports. In our presentation we illustrate that this classical microlocal decomposition of the delta-distribution can be obtained by using boundary values of monogenic functions as opposed to functions of several complex variables. As a side result we obtain the formula $d(x) = 2/Am + 1[(1 - ax)(xo - x)/|xo+x|^{m+1}]o$ whereby the notation [.]o refers to the scalar part and xo + x belongs to the parabola $xo = a|x|^2$. (Received September 11, 2009)