962-39-705   **Henrik Stetkaer*** (`stetkaer@imf.au.dk`), Henrik Stetkaer, Department of Mathematical Sciences, University of Aarhus, DK-8000 Aarhus, Denmark. *Functional equations and spherical functions.*

There is a connection between harmonic analysis and certain functional equations. The prime example of this is that the non-zero solutions of d'Alembert's classical functional equation on an abelian group are spherical functions as defined in harmonic analysis. With the connection in mind we are able to solve and generalize many functional equations on abelian groups, e.g. trigonometric functional equations of rectangular type. We end up by a few remarks on d'Alembert's functional equation on non-abelian groups. Here new phenomena occur. (Received September 22, 2000)