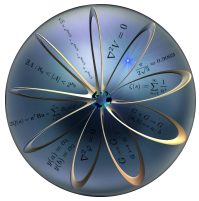

planetmath.org

Math for the people, by the people.

polarization by differential operators

Canonical name	PolarizationByDifferentialOperators
Date of creation	2013-03-22 17:37:26
Last modified on	2013-03-22 17:37:26
Owner	rspuzio (6075)
Last modified by	rspuzio (6075)
Numerical id	6
Author	rspuzio (6075)
Entry type	Definition
Classification	msc 16R99
Classification	msc 15A69
Classification	msc 15A63
Classification	msc 17A99

One can construct the polars of a polynomial by means of a differential operator. Suppose we have a homogeneous polynomial $p(x_1, \ldots, x_n)$. To compute the polars of p we act on it with the operator $\Delta = y_1\,\partial/\partial x_1 + \cdots + y_n\,\partial/\partial x_n$; the k-th polar of p equals $\Delta^k p(x_1, \ldots x_n)$.