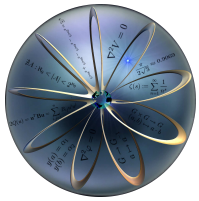

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derivation

Canonical name	Derivation
Date of creation	2013-03-22 12:02:41
Last modified on	2013-03-22 12:02:41
Owner	djao (24)
Last modified by	djao (24)
Numerical id	10
Author	djao (24)
Entry type	Definition
Classification	msc 17A36
Classification	msc 16W25
Classification	msc 13N15

Let R be a commutative ring. A *derivation* d on an R-algebra A into an A-module M is an R-linear transformation $\mathrm{d}\colon A \to M$ satisfying the properties

- $\mathrm{d}(a\mathbf{x} + b\mathbf{y}) = a\,\mathrm{d}\mathbf{x} + b\,\mathrm{d}\mathbf{y}$
- $\mathrm{d}(\mathbf{x} \cdot \mathbf{y}) = \mathbf{x} \cdot \mathrm{d}\mathbf{y} + \mathrm{d}\mathbf{x} \cdot \mathbf{y}$

for all $a, b \in R$ and $\mathbf{x}, \mathbf{y} \in A$.