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Φ - Γ -modules for families of Galois representations. (English) Zbl 0984.11062
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This paper shows that Fontaine's "Linearisation Approach" for Z_p -adic representations of an absolute local Galois group G_K carries over to a setting where the base ring Z_p is replaced by a general coefficient ring R , that is, R is noetherian complete with finite residue field of characteristic p . More specifically the author constructs categories of Φ -modules, and of Φ - Γ -modules depending on R , which give back the categories Fontaine worked with, on setting $R = Z_p$. He then proceeds to carry over the equivalences constructed by Fontaine (or a slight variant thereof) to the new setting: the category of R -modules of finite type with a continuous R -linear action of G_K is equivalent to the abovementioned category of Φ - Γ -modules. The author begins with the equal characteristic case where one just deals with Φ -modules, and then achieves the transition to the unequal characteristic case by standard constructions.

Reviewer: [Cornelius Greither \(Neubiberg\)](#)

MSC:

[11S23](#) Integral representations
[11S25](#) Galois cohomology
[11S20](#) Galois theory

Cited in **2** Reviews
Cited in **7** Documents

Keywords:

[local fields](#); [\$p\$ -adic representations](#); [complete noetherian rings](#)

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