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Title:	Galois Cohomology for Lubin-Tate $(\phi, \Gamma)$ -Modules
Authors:	<a href="#">Kwatra, Neha</a>
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Abstract:	The classification of the local Galois representations using $(\phi, \Gamma)$ -modules by Fontaine has been generalized by Kisin and Ren over the Lubin-Tate extensions of local fields using the theory of $(\phi, \Gamma)$ -modules. In this thesis, we extend the work of (Fontaine) Herr by introducing a complex which allows us to compute co homology over the Lubin-Tate extensions and compare it with the Galois cohomology groups. We further extend that complex to include certain non-abelian extensions. We then deduce some relations of this cohomology with those arising from $(\psi, \Gamma)$ -modules. We also compute the Iwasawa cohomology over the Lubin Tate extensions in terms of $\psi$ -operator acting on étale $(\phi, \Gamma)$ -module attached to the local Galois representation. Moreover, we generalize the notion of $(\phi, \Gamma)$ -modules over the coefficient ring $R$ and show that the equivalence given by Kisin and Ren extends to the Galois representations over $R$ . This equivalence allows us to generalize our results to the case of coefficient rings.
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