

Cyclicity over imaginary quadratic fields

Haruzo Hida

Under mild conditions, we prove that the Iwasawa module for a \mathbb{Z}_p -extension over an imaginary quadratic field with an anti-cyclotomic branch character is generated by a single element over the Iwasawa algebra. In particular, the characteristic ideal of the Iwasawa module determines (in these cases) the isomorphism class of the Iwasawa module, as expected by Iwasawa.