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**Kenneth A. Ribet\*** ([ribet@math.berkeley.edu](mailto:ribet@math.berkeley.edu)), Mail Code 3840, 970 Evans Hall, Berkeley, CA 94720-3840. *Non-optimal levels of reducible two-dimensional mod  $\ell$  representations of the Galois group of  $\mathbf{Q}$ .*

We are interested in the possible square free integers  $N$  that are levels of classical weight-2 newforms with trivial character whose associated mod  $\ell$  Galois representations are the direct sum of the trivial character and the mod  $\ell$  cyclotomic character. B. Mazur determined all possible prime numbers  $N$  that are such levels in 1977. We continue by treating the case where  $N$  is the product of two distinct primes and obtaining partial information about the case where  $N$  is an arbitrary product of distinct prime numbers.

This work will become part of a joint project with L. Dieulefait and J. Jimenez-Urroz. (Received September 21, 2009)