

Let  $S_k^+(N, \Phi)$  denote the space generated by Hilbert modular newforms (over a fixed totally real field  $K$ ) of weight  $k$ , level  $N$  and Hecke character  $\Phi$ . We show how to decompose  $S_k^+(N, \Phi)$  into direct sums of twists of other spaces of newforms. This sheds light on the behavior of a newform under a character twist: the exact level of the twist of a newform, when such a twist is itself a newform, and when a newform may be realized as the twist of a primitive newform. These results were proven for elliptic modular forms by Hijikata, Pizer and Shemanske by employing a formula for the trace of the Hecke operator  $T_k(n)$ . We obtain our results not by employing a more general formula for the trace of Hecke operators on spaces of Hilbert modular forms, but instead by using basic properties of newforms which were proven for elliptic modular forms by Li, and Atkin and Li, and later extended to Hilbert modular forms by Shemanske and Walling.