$x \in \chi$, where χ is the support of distribution $f(x)$ (assume $f(x)$ is a a distribution, i.e, the proportional function in the Slice Sampling paper was normalized)

$$U = \{(x, y) : y \leq f(x)\}$$

Can I use the following as the definition for: $f(x)$ is an invariant distribution for the kernel K? Or is this just one sufficient condition? (unique in the Slice Sampling case).

$$\int_{(x,y)\in U} f(x, y)K((x, y), (x', y'))dydx = f(x', y')$$