Abstract: In this paper we apply Rothe's Fixed Point Theorem to prove the interior approximate controllability of the following semilinear impulsive heat equation

\[
\begin{cases}
    z_t = \Delta z + 1_\omega u(t, x) + f(t, z, u(t, x)), & \text{in } (0, \tau] \times \Omega, t \neq t_k \\
    z = 0, & \text{on } (0, \tau) \times \partial \Omega,
    \\
    z(0, x) = z_0(x), & x \in \Omega, \\
    z(t^+_k, x) = z(t^-_k, x) + I_k(t_k, z(t_k, x), u(t_k, x)), & x \in \Omega,
\end{cases}
\]

where \( k = 1, 2, \ldots, p \), \( \Omega \) is a bounded domain in \( \mathbb{R}^N (N \geq 1) \), \( z_0 \in L_2(\Omega) \), \( \omega \) is an open nonempty subset of \( \Omega \), \( 1_\omega \) denotes the characteristic function of the set \( \omega \), the distributed control \( u \) belongs to \( C([0, \tau]; L_2(\Omega)) \) and \( f, I_k \in C([0, \tau] \times \mathbb{R} \times \mathbb{R}; \mathbb{R}) \), \( k = 1, 2, 3, \ldots, p \), such that

\[
|f(t, z, u)| \leq a_0|z|^\alpha_0 + b_0|u|^\beta_0 + c_0, \quad u \in \mathbb{R}, z \in \mathbb{R}.
\]

\[
|I_k(t, z, u)| \leq a_k|z|^\alpha_k + b_k|u|^\beta_k + c_k, \quad k = 1, 2, 3, \ldots, p, \quad u \in \mathbb{R}, z \in \mathbb{R}.
\]

with \( \frac{1}{2} \leq \alpha_k < 1, \quad \frac{1}{2} \leq \beta_k < 1, \quad k = 0, 1, 2, 3, \ldots, p \). Under this condition we prove the following statement: For all open nonempty subsets \( \omega \) of \( \Omega \) the system is approximately controllable on \( [0, \tau] \). Moreover, we could exhibit a sequence of controls steering the nonlinear system from an initial state \( z_0 \) to an \( \epsilon \) neighborhood of the final state \( z_1 \) at time \( \tau > 0 \).