The deuterium nucleus is compound of one proton and one neutron.

Because $M_p \simeq M_n$ and $V_p \simeq V_n$, we obtain:

$V^f_{(p \text{ or } n)} = V^i_{(p \text{ or } n)} - J_{(p \text{ or } n)} M_{(n \text{ or } p)}$

(see Vixra: 1711.0299. Author Piscedda Giampaolo),

then in the $Ox_1x_2x_3$, V_p or V_n vanishing, because its volume route of 90° almost completely, along the x_4 axis. Let $V_n \longrightarrow 0$, so:

$V_p^f = V_p^i - [V_p^i/(M_p+M_n)]M_\mu$. From this formula we obtain $r_p^f=(\frac{3}{4\pi} V_p^f)^{1/3}$.

Because the electron deuterium charge radius is $r_p^i+(r_d^i - r_p^i)$, then,

the muonic deuterium charge radius is: $r_d^i - r_p^i + r_p^f = r_d^f$.

$r_d^i - r_p^i = 1{,}2673 \cdot 10^{-15}\,m$, $V_p^i = 2{,}807 \cdot 10^{-45}\,m^3$, $M_p+M_n = 3{,}347549 \cdot 10^{-27}\,kg$

$V_p^i M_\mu/(M_p+M_n) = 1{,}579456 \cdot 10^{-46}\,m^3$; then $r_p^f = 8{,}58369 \cdot 10^{-16}\,m$. Then:

$r_d^i - r_p^i + r_p^f = r_d^f = 2.12567 \cdot 10^{-15}\,m$

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