Correction to: A Novel Radio-Frequency Inductively Coupled Plasma Torch for Material Processing

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Published online: 4 October 2021

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Correction to: Plasma Chemistry and Plasma Processing

<https://doi.org/10.1007/s11090-021-10200-8>

The original version of this article unfortunately contained a mistake. The corrected details are given below

a) The nomenclature given below was missed in the original paper.

Nomenclature

Re	Reynolds number	A	Vector potential (T-m)
ρ	Density (kg/m ³)	A_0	Tangential component of vector potential (T-m)
v_x	Axial component of velocity(m/s)	i	Imaginary unit number
v_r	Radial component of velocity (m/s)	μ_0	Vacuum magnetic permeability: $4\pi \times 10^{-7}$ (H/m)
v_θ	Tangential component of velocity (m/s)	σ	Electrical conductivity (S/m)
μ	Dynamic viscosity (Pa-s)	ω	Angular frequency (rad/s)
$F_{L,r}$	Radial Component of Lorentz force (N/m ³)	J_{coil}	Current density inside load coil (A/m ²)
$F_{p,x}$	Axial component of momentum source term for particles (N/m ³)	B	Magnetic flux density (T)
h	Enthalpy (J/kg)	B_x	Axial component of magnetic flux density (T)
k	Thermal conductivity (W/m-K)	B_r	Radial component of magnetic flux density (T)
c_p	Specific heat capacity (J/kg-K)	E	Electric field intensity (V/m)
Q_{JH}	Joule heating source term (W/m ³)	E_0	Tangential component of electric field intensity (V/m)
Q_R	Radiation sink term (W/m ³)	T	Gas temperature (K)

The original article can be found online at <https://doi.org/10.1007/s11090-021-10200-8>.

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Nomenclature

Q_p	Energy source term for particles (W/m^3)	P	Gas pressure (kPa)
		T_w	Torch wall temperature (K)
		k_w	Torch wall thermal conductivity ($\text{W}/\text{m}\cdot\text{K}$)

- b) In Table 1: Geometric Parameter “ $D = 1.5^*$ ” should be “ $d = 1.5^*$ ” in order to match the case used in the text. The correct Table 1 is given below.
- c) Page 8: Under heading “Conical Torch Design and Optimization Section”, 3rd line in the 3rd paragraph: should be changed from “Inherent to the plasma as the Joule heating ...” to “Inherent to the plasma are the Joule heating ...”.

Table 1 Geometric parameters for the model

Geometric Parameter	Value	Geometric Parameter	Value
L_1 (mm)	28.8	β (swirl velocity angle, °)	22.5*
L_2 (mm)	8	R_1 (mm)	28.8
L_3 (mm)	100	R_2 (mm)	1.9
L_4 (mm)	10	R_3 (mm)	20
L_i (mm)	31	R_c (mm)	26.5
L_{ic} (mm)	14.5	D_c (mm)	7
α (°)	10*	d (mm)	1.5*
R_i (mm)	13.8		

*Optimized value based on “Conical Torch Design and Optimization” section

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