

TABLE I  
Parameters' values used for training dataset creation

Parameter	Value
$d_p, \mu\text{m}$	150, 180, 210, 240
$N_B, \text{cm}^{-3}$	$10^{15}$ , $1.778 \times 10^{15}$ , $3.162 \times 10^{15}$ , $5.623 \times 10^{15}$ , $10^{16}$ , $1.778 \times 10^{16}$ , $3.162 \times 10^{16}$ , $5.623 \times 10^{16}$ , $10^{17}$
$N_{Fe}, \text{cm}^{-3}$	$10^{10}$ , $1.468 \times 10^{10}$ , $2.154 \times 10^{10}$ , $3.162 \times 10^{10}$ , $4.642 \times 10^{10}$ , $6.813 \times 10^{10}$ , $10^{11}$ , $1.468 \times 10^{11}$ , $2.154 \times 10^{11}$ , $3.162 \times 10^{11}$ , $4.642 \times 10^{11}$ , $6.813 \times 10^{11}$ , $10^{12}$ , $1.468 \times 10^{12}$ , $2.154 \times 10^{12}$ , $3.162 \times 10^{12}$ , $4.642 \times 10^{12}$ , $6.813 \times 10^{12}$ , $10^{13}$
$T, \text{K}$	290, 295, 300, 305, 310, 315, 320, 325, 330, 335, 340

TABLE II  
Parameters' values used for test dataset creation

$N_B, \text{cm}^{-3}$	$N_{Fe}, \text{cm}^{-3}$	$d_p, \mu\text{m}$	$T, \text{K}$	# of IV
B-varied dataset				
$1.4 \times 10^{15}$	$10^{10}$ , $1.468 \times 10^{10}$ , $2.154 \times 10^{10}$ , $3.162 \times 10^{10}$ , $4.642 \times 10^{10}$ , $6.813 \times 10^{10}$ , $10^{11}$ , $1.468 \times 10^{11}$ , $2.154 \times 10^{11}$ , $3.162 \times 10^{11}$ , $4.642 \times 10^{11}$ , $6.813 \times 10^{11}$ , $10^{12}$ , $1.468 \times 10^{12}$ , $2.154 \times 10^{12}$ , $3.162 \times 10^{12}$ , $4.642 \times 10^{12}$ , $6.813 \times 10^{12}$ , $10^{13}$	150, 180	290, 295, 300, 305, 310, 315, 320, 325, 330, 335, 340	836

$4.5 \times 10^{15}$ , $8 \times 10^{16}$	$10^{10}$ , $2.154 \times 10^{10}$ , $3.162 \times 10^{10}$ , $1.468 \times 10^{11}$ , $2.154 \times 10^{11}$ , $4.642 \times 10^{11}$ , $10^{12}$ , $2.154 \times 10^{12}$ , $3.162 \times 10^{12}$ , $4.642 \times 10^{12}$ , $6.813 \times 10^{12}$ , $10^{13}$	210	290, 305, 320, 340	192
Fe-varied dataset				
$1.778 \times 10^{15}$ , $5.623 \times 10^{15}$ , $10^{16}$ , $3.162 \times 10^{16}$ , $10^{17}$	$1.3 \times 10^{10}$ , $2.471 \times 10^{10}$ , $4.696 \times 10^{10}$ , $8.927 \times 10^{10}$ , $1.697 \times 10^{11}$ , $3.225 \times 10^{11}$ , $6.13 \times 10^{11}$ , $1.165 \times 10^{12}$ , $2.214 \times 10^{12}$ , $4.209 \times 10^{12}$ , $8 \times 10^{12}$	180	290, 295, 300, 305, 310, 315, 320, 325, 330, 335, 340	1210
$3.162 \times 10^{15}$ , $10^{16}$ , $10^{17}$	$1.2 \times 10^{11}$ , $2.234 \times 10^{11}$ , $4.16 \times 10^{11}$ , $7.746 \times 10^{11}$ , $1.442 \times 10^{12}$ , $2.685 \times 10^{12}$ , $5 \times 10^{12}$	210, 240	290, 300, 310, 320, 330, 340	502
d-varied dataset				
$10^{15}$ , $5.623 \times 10^{15}$ , $1.778 \times 10^{16}$ , $5.623 \times 10^{16}$	$10^{10}$ , $1.468 \times 10^{10}$ , $2.154 \times 10^{10}$ , $3.162 \times 10^{10}$ , $4.642 \times 10^{10}$ , $6.813 \times 10^{10}$ , $10^{11}$ , $1.468 \times 10^{11}$ , $2.154 \times 10^{11}$ , $3.162 \times 10^{11}$ , $4.642 \times 10^{11}$ , $6.813 \times 10^{11}$ , $10^{12}$ , $1.468 \times 10^{12}$ , $2.154 \times 10^{12}$ , $3.162 \times 10^{12}$ , $4.642 \times 10^{12}$ , $6.813 \times 10^{12}$ , $10^{13}$	190	290, 300, 310, 320, 330, 340	912

$10^{15}$ , $1.778 \times 10^{15}$ , $3.162 \times 10^{15}$ , $5.623 \times 10^{15}$ , $10^{16}$ , $1.778 \times 10^{16}$ , $3.162 \times 10^{16}$ , $5.623 \times 10^{16}$ , $10^{17}$	$10^{10}$ , $3.162 \times 10^{10}$ , $10^{11}$ , $3.162 \times 10^{11}$ , $10^{12}$ , $3.162 \times 10^{12}$ , $10^{13}$	205	295, 305, 315, 325, 335	630
---	--	-----	----------------------------	-----

$1.778 \times 10^{15}$ , $10^{16}$	$10^{10}$ , $1.468 \times 10^{10}$ , $2.154 \times 10^{10}$ , $3.162 \times 10^{10}$ , $4.642 \times 10^{10}$ , $6.813 \times 10^{10}$ , $10^{11}$ , $1.468 \times 10^{11}$ , $2.154 \times 10^{11}$ , $3.162 \times 10^{11}$ , $4.642 \times 10^{11}$ , $6.813 \times 10^{11}$ , $10^{12}$ , $1.468 \times 10^{12}$ , $2.154 \times 10^{12}$ , $3.162 \times 10^{12}$ , $4.642 \times 10^{12}$ , $6.813 \times 10^{12}$ , $10^{13}$	230	290, 295, 300, 305, 310, 315, 320, 325, 330, 335, 340	836
---------------------------------------	---	-----	--	-----

---

T-varied dataset

---

$10^{15}$ , $1.778 \times 10^{15}$ , $3.162 \times 10^{15}$ , $5.623 \times 10^{15}$ , $10^{16}$ , $1.778 \times 10^{16}$ , $3.162 \times 10^{16}$ , $5.623 \times 10^{16}$ , $10^{17}$	$1.468 \times 10^{10}$ , $4.642 \times 10^{10}$ , $6.813 \times 10^{10}$ , $1.468 \times 10^{11}$ , $4.642 \times 10^{11}$ , $6.813 \times 10^{11}$ , $2.154 \times 10^{12}$ , $4.642 \times 10^{12}$	210	314	144
$10^{15}$ , $5.623 \times 10^{15}$ , $1.778 \times 10^{16}$ , $3.162 \times 10^{16}$	$10^{10}$ , $1.468 \times 10^{10}$ , $2.154 \times 10^{10}$ , $3.162 \times 10^{10}$ , $4.642 \times 10^{10}$ , $6.813 \times 10^{10}$ , $10^{11}$ , $1.468 \times 10^{11}$ ,	150, 180, 210, 240	303	608

1.778×10 <sup>15</sup> ,	2.154×10 <sup>11</sup> , 3.162×10 <sup>11</sup> ,	150, 180	393	228
1.778×10 <sup>16</sup> ,	4.642×10 <sup>11</sup> , 6.813×10 <sup>11</sup> ,			
10 <sup>17</sup>	10 <sup>12</sup> , 1.468×10 <sup>12</sup> ,			
10 <sup>15</sup> ,	2.154×10 <sup>12</sup> , 3.162×10 <sup>12</sup> ,	180, 240	336	664
1.778×10 <sup>15</sup> ,	4.642×10 <sup>12</sup> , 6.813×10 <sup>12</sup> ,			
3.162×10 <sup>15</sup> ,	10 <sup>13</sup>			
5.623×10 <sup>15</sup> ,				
10 <sup>16</sup> ,				
1.778×10 <sup>16</sup> ,				
3.162×10 <sup>16</sup> ,				
5.623×10 <sup>16</sup> ,				
10 <sup>17</sup>				
10 <sup>15</sup> ,	1.468×10 <sup>10</sup> , 4.642×10 <sup>10</sup> ,	210	314	144
1.778×10 <sup>15</sup> ,	6.813×10 <sup>10</sup> , 1.468×10 <sup>11</sup> ,			
3.162×10 <sup>15</sup> ,	4.642×10 <sup>11</sup> , 6.813×10 <sup>11</sup> ,			
5.623×10 <sup>15</sup> ,	2.154×10 <sup>12</sup> , 4.642×10 <sup>12</sup>			
10 <sup>16</sup> ,				
1.778×10 <sup>16</sup> ,				
3.162×10 <sup>16</sup> ,				
5.623×10 <sup>16</sup> ,				
10 <sup>17</sup>				
All-varied dataset				
1.3×10 <sup>15</sup> ,	5×10 <sup>12</sup> , 6.082×10 <sup>12</sup> ,	200	293, 313, 333	48
2×10 <sup>16</sup>	7.399×10 <sup>12</sup> , 9×10 <sup>12</sup>			

$7 \times 10^{15}$ , $4.5 \times 10^{16}$	$5 \times 10^{10}$ , $5.861 \times 10^{10}$ , $6.869 \times 10^{10}$ , $8.051 \times 10^{10}$ , $9.437 \times 10^{10}$ , $1.106 \times 10^{11}$ , $1.296 \times 10^{11}$ , $1.52 \times 10^{11}$ , $1.781 \times 10^{11}$ , $2.088 \times 10^{11}$ , $2.447 \times 10^{11}$ , $2.868 \times 10^{11}$ , $3.362 \times 10^{11}$ , $3.94 \times 10^{11}$ , $4.618 \times 10^{11}$ , $5.413 \times 10^{11}$ , $6.345 \times 10^{11}$ , $7.437 \times 10^{11}$ , $8.717 \times 10^{11}$ , $1.022 \times 10^{12}$ , $1.198 \times 10^{12}$ , $1.404 \times 10^{12}$ , $1.645 \times 10^{12}$ , $1.928 \times 10^{12}$ , $2.26 \times 10^{12}$ , $2.649 \times 10^{12}$ , $3.105 \times 10^{12}$ , $3.639 \times 10^{12}$ , $4.266 \times 10^{12}$ , $5 \times 10^{12}$	170, 200	297, 309, 321, 333	960
$2.5 \times 10^{15}$ , $8 \times 10^{16}$	$1.1 \times 10^{10}$ , $1.302 \times 10^{10}$ , $1.54 \times 10^{10}$ , $1.822 \times 10^{10}$ , $2.156 \times 10^{10}$ , $2.551 \times 10^{10}$ , $3.018 \times 10^{10}$ , $3.571 \times 10^{10}$ , $4.226 \times 10^{10}$ , $5 \times 10^{10}$ , $1.1 \times 10^{11}$ , $1.302 \times 10^{11}$ , $1.54 \times 10^{11}$ , $1.822 \times 10^{11}$ , $2.156 \times 10^{11}$ , $2.551 \times 10^{11}$ , $3.018 \times 10^{11}$ , $3.571 \times 10^{11}$ , $4.226 \times 10^{11}$ , $5 \times 10^{11}$ , $1.1 \times 10^{12}$ , $1.302 \times 10^{12}$ , $1.54 \times 10^{12}$ , $1.822 \times 10^{12}$ , $2.156 \times 10^{12}$ , $2.551 \times 10^{12}$ , $3.018 \times 10^{12}$ , $3.571 \times 10^{12}$ , $4.226 \times 10^{12}$ , $5 \times 10^{12}$	220	292, 302, 312	360

---