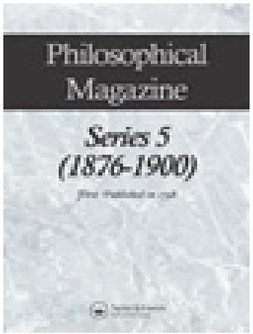

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On the potential of electrical discharge

Prof. Heydweiller

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showed further that in the branching of electrical vibrations the coefficient of self-induction is almost entirely of dominant influence and not the resistance.—*Wiener Berichte*, March 16, 1893.

ON THE POTENTIAL OF ELECTRICAL DISCHARGE.

BY PROF. HEYDWEILLER.

The author, at the conclusion of a paper on this subject, gives the following table for the values of the potential of discharge, v, between equal spherical electrodes of radius r, for sparking-distances d cm.; the experiments were made by means of a spark-micrometer of suitable construction, so that no appreciable inductive actions were to be feared. The experiments were made at a pressure of 745 mm. and at a temperature of 18° C.; for an increase of pressure of 8 mm. or for a diminution of temperature of 3°, these values are to be raised 1 per cent. in either case.

$r=2{\cdot}5$ cm.		$r=1{\cdot}0$ cm.	
d cm.	v	d cm.	v.
0·5	61·2	0·1	15·7
0·6	72·0	0·2	27·0
0·7	81·8	0·3	37·9
0·8	91·1	0·4	48·3
0·9	100·3	0·5	58·3
1·0	109·5	0·6	67·9
1·1	118·6	0·7	77·5
1·2	127·7	0·8	86·8
1·3	136·7	1·0	104·3
1·4	145·6	1·2	118·3
1·5	154·1	1·4	128·8
1·6	162·2	1·6	137·6
$r=0{\cdot}5$ cm.		$r=0{\cdot}25$ cm.	
d cm.	v.	d cm.	v.
0·1	16·0	0·1	16·1
0·2	27·9	0·2	27·9
0·3	37·9	0·3	37·8
0·4	48·5	0·4	45·9
0·5	57·7	0·5	52·4
0·6	66·4	0·6	57·3
0·7	73·5	0·7	61·0
0·8	80·3	0·8	63·4
0·9	85·3	1·0	67·3
1·0	90·0	1·5	74·4

With the accuracy of 1 per cent. which these values possess as derived both from Paschen's observations and my own, they will be sufficient in most cases for practical purposes, and will probably have attained the limit of accuracy possible in such cases.—Wiedemann's *Annalen*, xlviii. p. 213, 1893.

ON A PROPERTY OF THE ANODES OF GEISSLER'S TUBES.

BY E. GOLDSTEIN.

While a great number of properties of the kathode of induced discharges in rarefied spaces have been made out, only a few properties of anodes are known. The following communication describes a new property of the anode. If a vessel in which the discharge takes place, one for instance with electrodes at the ends