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**Positive column contraction for a dc glow discharge in  $\text{CF}_4$**  VALERIY LISOVSKIY, Kharkov National University, Svobody sq.4, Kharkov 61077, Ukraine, OLGA PELUSTKA, VERONIKA KOVAL, SCPT, Svobody sq.6, Kharkov, 61022, Ukraine — This paper studies in experiment the diffusion and contracted modes of dc glow discharge in  $\text{CF}_4$ . The existence region for the contracted mode with inter-electrode gap unchanged is found to be limited from the low-pressure side, this boundary being multi-valued. A contracted column establishes in a stratified positive column with current increasing and gas pressure fixed. However with subsequent current increase the length of the positive column decreases (with simultaneous considerable expansion of the negative glow and dark Faraday space), and contraction vanishes. At higher pressure the current increase does not lead to contraction vanishing. Similar multi-valued region exists from the narrow gap side when the inter-electrode gap changes with gas pressure fixed.

Valeriy Lisovskiy  
Kharkov National University, Svobody sq.4, Kharkov 61077, Ukraine

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