# CLAIMS

1. Pulsed X-ray source including a low pressure (1-20 Pa) wire ion plasma discharge source comprising an elongated ionization chamber (1) housing at least two anode wires (2, 3) extending longitudinally within the elongated ionization chamber, a DC voltage supply (4) and a pulsed voltage supply (5), wherein one (3) of said at least two anode wires is connected to the pulsed voltage supply (5)

characterized in that another (2) of said at least two anode wires is connected to the DC voltage supply (4).

2. Pulsed X-ray source according to claim 1, characterized in that the low pressure wire ion plasma discharge source comprises several anode wires connected to the DC voltage supply (4) and/or several anode wires connected to the pulsed voltage supply (5).

3. Pulsed X-ray source according to claim 1 or 2, characterized in that the direct current generated by the DC voltage supply (4) is equal to or lower than 1 m A/cm.

4. Pulsed X-ray source according to anyone of claims 1 to 3, characterized in that the pulsed voltage supply (5) generates a pulsed large current of 1 to 5 A/cm or more.

5. Pulsed X-ray source according to anyone of claims 1 to 4, characterized in that the elongated ionization chamber (10) comprises a main elongated chamber (11) and an elongated auxiliary chamber (12) in fluidic communication along their entire lengths through a slit (13), the at least one pulsed voltage supplied anode wire (14a, 14b) extending longitudinally in the main elongated chamber (11) and the at least one DC voltage supplied anode wire (15) extending longitudinally in the elongated auxiliary chamber (12).