

WHAT IS CLAIMED IS:

1. A plasma processing method for generating a plasma inside a chamber to process a sample placed inside the chamber, said method comprising the steps of:

forming a plasma region inside said plasma;
producing ultraviolet radiation from said plasma region;
and

guiding particles inside said plasma region onto a surface of said sample to implant the particles into said sample, to etch said surface with the particles, or to deposit said particles as a film on said surface.

2. A plasma generator for generating a plasma inside a chamber to process a sample placed inside the chamber, said plasma generator comprising:

a plasma region formed inside said chamber; and
an ultraviolet radiation-blocking means mounted between said plasma region and said sample placed inside said chamber, said ultraviolet radiation-blocking means acting to pass said plasma but block ultraviolet radiation.

3. The plasma generator of claim 2, wherein said plasma region is formed in a position substantially opposite to a processed surface of said sample, and wherein said ultraviolet radiation-blocking means comprises a plurality of ultraviolet radiation-blocking plates each provided with a plurality of holes, said ultraviolet radiation-blocking

plates being spaced a given spacing from each other, the holes of said ultraviolet radiation-blocking plates being located in a staggered relation to each other.

4. The plasma generator of claim 2, wherein said plasma region is formed in a position substantially opposite to a processed surface of said sample, and wherein said ultraviolet radiation-blocking means comprises a plurality of ultraviolet radiation-blocking plates inclined to said processed surface of said sample, said ultraviolet radiation-blocking plates being laid to overlap each other with a given spacing therebetween.

5. The plasma generator of claim 2, wherein

(A) said plasma region is formed at a side of a processed surface of said sample,

(B) said ultraviolet radiation-blocking means is mounted along a side wall of said chamber via said plasma region, and

(C) ultraviolet radiation-blocking plates each provided with plural holes are spaced a given spacing from each other such that the holes in the ultraviolet radiation-blocking plates are located in a staggered relation to each other.

6. The plasma generator of claim 2, wherein

(A) said plasma region is formed at a side of a processed surface of said sample,

(B) said ultraviolet radiation-blocking means is mounted along a side wall of said chamber via said plasma region, and

(C) a plurality of ultraviolet radiation-blocking plates are inclined to the side wall of said chamber and spaced a given spacing from each other along said side wall of said chamber.