RF power is being lost to the accelerator walls. In addition, the RF antenna probes indicate that the microwave field penetrates only a short distance beyond the dielectric window. The shorter accelerator shown in Fig. 2 was therefore built in hopes of recovering the power lost to the walls of the longer device without changing the RF/plasma interaction situation.

A dramatic increase in power received by the 10-inch diameter calorimeter was in fact observed. Typifying the operation of this shorter accelerator is a test run at 2600 watts incident RF power. The argon flow rate was 1.0 mg/s, and the magnetic field strength at the window was at the cyclotron resonance point, 2980 gauss. Tuning resulted in a power reflection coefficient of 0.02. This test lasted 203 seconds. The calorimetrically measured plasma stream power throughout this test was 1400 ± 70 watts, giving a power conversion efficiency of 0.54 ± 0.03. Although in repeated tests under different field, power and flow conditions failed to reach this high a value, all measured efficiencies were over 0.4.

For the conditions of the test described above, the mass flow rate, 1 mg/s, corresponds to a particle rate of 1.5×10^{19} argon gas molecules per second. The plasma stream carried 1400 watts to the calorimeter, or 580 eV per molecule. If this power is indeed totally transferred to directed motion of the argon ions, the average ion velocity would be 5.3×10^4 meters per second. The stream density would be 5.6×10^{10} particles per cm^3, assuming a 25-cm stream diameter.

The most obvious reason for attaining this significant result is the shortening of the plasma chamber, thereby presumably recovering a good portion of the power which, in the longer accelerator, had been measured to be going into the plasma chamber walls. It is probable that the increase in the field gradient adjacent to the window was also beneficial. A third, possibly influential change from the earlier design is the contouring of the exit orifice (compare Figs. 1 and 2).

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Corrections

Organic Superconductor and Dielectric Infrared Waveguide, Resonator, and Antenna Models of Insects' Sensory Organs[1]

1) Reference [6] in the text (page 707) should read [8].

2) "Metallic films [11]" in the text (page 707, 13th line of second paragraph from the end of the article) should read "metal-like films [11]." While this also allows consideration of multiple film interference with interposed absorption, according to Heavens[2] and Vasicek,[3] it does not eliminate "metal"-dielectric films.[2,4]

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Microwave Band-Stop Filters with Narrow Stop Bands[1]

Equation (17) on page 419 should have read:

$$G(\phi) = 2F(\phi) + \frac{2\delta - \sin 2\delta}{1 - \cos 2\delta}.$$

The approximation

$$G(\phi) \approx 2F(\phi)$$

still holds for ϕ close to 90 degrees. The formula has been referred to in other works.[2,3]

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Acceptable Mode Types for Inhomogeneous Media[1]

Maxwell's equations, (1) and (2), should have been $\nabla \times \overline{E} = -j\omega\mu\overline{H}$ and $\nabla \times \overline{H} = j\omega\epsilon\overline{E}$.

The last term in (9) is a vector, i.e., $-\nabla^2\overline{H}$.

The letter H was omitted from (18); it should have read

$$\frac{\partial}{\partial x} H_y \frac{\partial}{\partial y} \ln (\mu\epsilon) = 0.$$

Four lines further—first appearances notwithstanding—the second case listed should have been described as a *particular* one and not as a *peculiar* one.

In the center column of page 876, the last sentence of the first paragraph should be amended to " . . . the normal modes must still be of the LS type . . . "

In reference [8], a transposition occurred in the spelling of the name of G. Barzilai.

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