RADIATION FROM A MOVING SOURCE IN A PLASMA: ALL-FORWARD ENERGY FLOW AND ENHANCED FIELD-ALIGNED RADIATION.

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The electromagnetic far field and radiation caused by a source moving in a plasma is studied in terms of the Doppler-shifted wave-vector surface\(^1\). In the isotropic case and when the velocity of the source exceeds a certain critical value, all the radiation energy is found to flow within a forward cone and there occurs the complex Doppler effect. In the magnetoplasma case, depending on the velocity, enhanced radiation flux (which is inversely proportional to the distance) is found along the field direction, forward or backward.