Power emitted $\qquad P = \sigma\,(A)\,(\epsilon)\,T^4$

$$\nu' = \nu * \frac{1}{1 \mp \frac{v}{c}}$$

$$\lambda' = \lambda * (1 \mp \frac{v}{c})$$

$$\nu' = \nu * \frac{1}{1 \mp \frac{v}{c}} * \frac{1}{\gamma}$$

$$\nu' = \nu * \frac{\sqrt{1 + v/c}}{\sqrt{1 - v/c}}$$

$$\lambda' = \lambda * \frac{\sqrt{1 - v/c}}{\sqrt{1 + v/c}}$$

$$\lambda_{\text{direct}} = \lambda * (1 - v/c) = \lambda - (\lambda * \frac{v}{c})$$

$$\lambda_{\text{reflect}} = \lambda * (1 + v/c) = \lambda + (\lambda * \frac{v}{c})$$

$$\lambda_{\text{direct}} = \lambda * (1 - \frac{v}{c} + \frac{1}{2}\frac{v^2}{c^2}) = \lambda - (\lambda * \frac{v}{c}) + (\lambda * \frac{1}{2}\frac{v^2}{c^2})$$

$$\lambda_{\text{reflect}} = \lambda * (1 + \frac{v}{c} + \frac{1}{2}\frac{v^2}{c^2}) = \lambda + (\lambda * \frac{v}{c}) + (\lambda * \frac{1}{2}\frac{v^2}{c^2})$$

$$\nu' = \nu * \frac{1}{\gamma}$$

$$\lambda' = \lambda * \gamma$$