Edited TeX manuscript

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\documentclass{article}
\begin{document}

\section{Introduction}

We know that according to the \textbf{Theory of Relativity} and Einstein's
famous equation of mass-energy equivalence,

\begin{equation}
E=mc^{2},
\end{equation}

that the speed of light is constant and nothing can travel faster than light,
which is $3 \times 10^{8} m/s$ \cite{R1,R2}. However, while it remains
true that the speed of light \emph{in vacuum} is constant, it can vary while
travelling through different materials and might be significantly less than c.
For example, the speed of light in water is only 0.75\emph{c} or 75\% of
what it is in vacuum. What is interesting is that matter can be accelerated
beyond this speed, for example, in nuclear reactors and particle accelerators
\cite{R3,R4,R5}. When that happens, that is, when a charged particle travels
in a medium (actually a ``dielectric'') faster than what light can travel at, it
gives rise to what is known as \textbf{Cherenkov radiation} \cite{R6,R7},
which in simple terms is an equivalent of a sonic boom for light. This
radiation propagates in a cone whose half angle $\theta$ can be expressed as

\begin{equation}
\cos \theta=\frac{1}{\eta \beta},
\end{equation}

where $\eta$ is the refractive index of the medium and $\beta$ is the ratio of
the speed of the particle and the speed of light.

\end{document}
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Accompanying PDF showing edit in Track Changes

\documentclass{article}
\begin{document}

\section{Introduction}

We ~~knew~~know that ~~from Einstein's popular equation, which is~~according to the \textbf{Theory of Relativity} ~~that~~and Einstein's famous equation of mass ~~and~~ energy ~~have~~ equivalence ~~relationship, that is,~~

\begin{equation}
E=mc^{2~~)~~},
\end{equation}

~~so~~that the speed of light is constant and nothing can travel faster than light, which is $3 \times 10^{8} m/s$ \cite{R1,R2}. ~~But~~However, while it ~~reminds~~ remains true that the ~~truth that the sped~~speed of light \emph{in vacuum} is constant, it can ~~change~~vary while travelling through ~~several material~~different materials and ~~is~~ might be significantly less than c. ~~E.g.,~~ For example, the speed of light in water is only 0.75\emph{c~~), that is,~~} or 75\% of what it is in vacuum. ~~It~~What is interesting ~~to know~~ is that matter can be ~~accelelated over~~accelerated beyond this speed, ~~like that~~ for example, in nuclear ~~reactions~~reactors and particle ~~accelerations~~accelerators \cite{R3,R4,R5}. When ~~such an event~~ that happens~~—~~, that is, when a charged particle travels in a medium (~~say~~actually a ``dielectric'') faster than what light can travel at, it gives rise to ~~commonly called~~what is known as \textbf{Cherenkov radiation} \cite{R6,R7}, ~~simply said this~~which in simple terms is an equivalent of ~~the~~a sonic boom for light. This radiation propagates ~~as~~in a cone whose half angle θ can be expressed as~~:~~

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where η is the refractive index of the medium and β is the ratio of the speed of the particle and the speed of ~~the~~ light.

\end{document}

Comment [A1]: Please confirm that your intended meaning has been conveyed accurately.

Comment [A2]: Avoid using the abbreviated form "e.g." at the beginning of a sentence.

Comment [A3]: It is incorrect to place a colon after a preposition.