

Broadside Electric, Ampere's Law Song

Refrain:

Andr Ampre's magical, mystical, wonderful law!
Of Maxwell's equations, it is the longest and strangest of all!

On the left side, he wrote circulation
Of magnetic field, cause it was neat.
On the right hand side of his equation --
Mu-naught I he thought it was complete.

(Refrain)

Decades later, Maxwell saw disaster,
Although he thought of Ampre as a saint --
In between the plates of a capacitor
The right side's zero, but the left side ain't!
To fix this problem, he added to the right side
Displacement current, a brand new quantity!
It started mu-naught eps'lon-naught and ended by
The time derivative of phi-sub-E.

(Refrain)

And so to Maxwell the myst'ry was reveal-ed--
He saw how light could move through empty space.
The changing B-field made the changing E-field,
And vice-a-versa, all at the perfect pace.

(Refrain)

Words & music by Walter Smith 4-6-01
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