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(54) Title: RECHARGEABLE BATTERY PARAMETER DETERMINATION AND OPTIMISATION

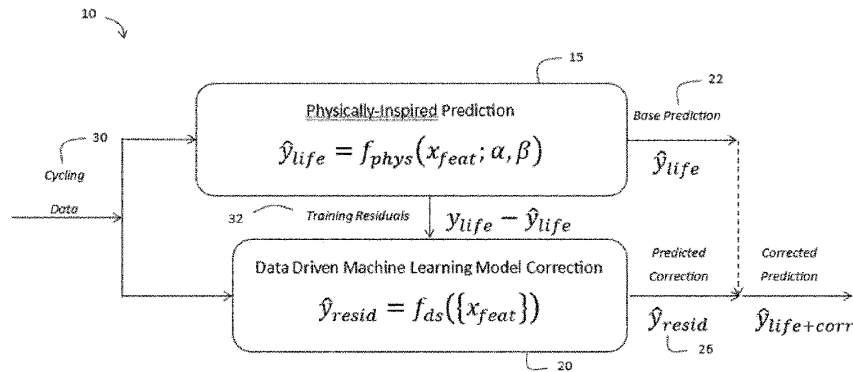


Figure 1

(57) Abstract: A computer implemented method (400) of determining a characteristic of a rechargeable battery, the rechargeable battery being associated with an adjustable battery parameter. The computer implemented method comprises determining (402) a physics-based prediction (22) of a correlation between the characteristic and a quantity of interest of the rechargeable battery, where the physics-based prediction (22) is based upon the adjustable battery parameter, and wherein the quantity of interest comprises a function of one or more cycling features, and the one or more cycling features comprise variables which are measurable during a charge-discharge cycle of the rechargeable battery. The computer implemented method (400) further comprises receiving (404) cycling data (30) comprising measured values of the one or more cycling features during one or more charge-discharge cycles of the rechargeable battery. The computer implemented method (400) further comprises coupling (406) the physics-based prediction (22) of the correlation to a trained data-driven model, wherein the data-driven model has been trained using a machine learning algorithm and is configured to determine a correction to the physics-based prediction of the correlation (26) as a function of the quantity of interest, and determining (410) the characteristic based on the physics-based prediction (22) of the correlation, the correction to the physics-based prediction of the correlation (26) and the received cycling data (30).

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