

Performance of PEMFCs Exposed to Harsh Environmental Conditions – Effects of NO₂ Content
in Airstream

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A commercialization of PEMFC technology in automotive or stationary power generation markets depends on cost reduction of fuel cell manufacturing which can be achieved by a mass production as well as by a decrease in Pt catalyst loading. However, keeping high performance and durability of low-Pt fuel cells at various operating conditions is a priority task for the industry. This work provides detailed studies of low- and high-Pt PEMFCs performance exposed to different concentrations of NO₂ (1-5 ppm) in airstream for understanding environmental tolerance of fuel cells, possible recovery approaches and establishing air quality guidance.