

Abstract: Permanent magnet machines with fractional-slot concentrated windings are widely used today, also in the field of vehicle traction and renewable power generation. Using tooth coils brings some advantages like increased manufacturability and modularity, increased flux-weakening performance and reduced axial length, along with well-known drawbacks due to the large space harmonic content and the consequent additional losses in the rotor. Some trends and perspectives in the application of fractional-slot concentrated windings will be presented, placing the emphasis on new design approaches and optimization techniques being set forth to mitigate their impact in terms of stray load losses.