Lusztig differential calculi for the non-irreducible quantum flag manifolds

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In this talk, we lay the groundwork for studying a special class of covariant differential calculi on quantum flag manifolds in the non-irreducible setting. This extends the well-understood irreducible case in which such calculi are classified by Heckenberger and Kolb. This framework reveals new features such as the decomposition of the quantum tangent space into irreducible submodules of the quantum Levi subalgebra. The maximal prolongation of the corresponding differential calculi is conjectured to have classical dimension, in line with the intuition drawn from low-dimensional examples currently under investigation.