OOB NULLs in VOTables

Suggestion: Out-of-band signalling for NULL values in VOTables.

For each row, add a special column (I'd say: last column, identified by position, name `_NULLMASK`, say, and UCD `meta.nullmask`, say) of type bit and arraysize $|\text{columns}| - 1$.

A NULL in a field is denoted by a True in the corresponding bit ("mask array").

Drawbacks

- New mechanism, orthogonal to what we're using now

- All VOTable software would need an update

- Incurs overhead even in rows and columns where no NULLs are used

- Legacy clients would show a weird column (but that could actually be an advantage)

- No solution for NULLs within arrays (but I'd say we don't want that anyway)

Advantages

- Works with all encodings

- No new VOTable elements needed

- Mask arrays are supported by many systems (e.g., numpy)

- Guaranteed to work even for char, short

- Streamable

- Would let us free up NaN so we *could* have IEEE special values for floating point numbers