1163-19-735 **Sophie Frisch*** (`frisch@math.tugraz.at`), Institut für Analysis und Zahlentheorie, Technische Universität Graz, Kopernikusgasse 24, 8010 Graz, Austria. *The stable rank of the ring of integer-valued polynomials.* Preliminary report.

The stable rank of a ring R, denoted by s.r.(R), is an important invariant in algebraic K-theory with the property that, when s.r.$(R) = n$, then every invertible matrix over R can be reduced to an $n \times n$ matrix by elementary row and column operations. For commutative R, s.r.$(R)-1$ compares to $\dim(R)$, the Krull dimension. In fact, for commutative Noetherian R, s.r.$(R) - 1 \leq \dim(R)$.

The ring of integer-valued polynomials $\mathrm{Int}(\mathbb{Z})$, a non-Noetherian 2-dimensional Prüfer domain, consists of those polynomials in $\mathbb{Q}[x]$ that map every integer to an integer:

$$\mathrm{Int}(\mathbb{Z}) = \{f \in \mathbb{Q}[x] \mid f(\mathbb{Z}) \subseteq \mathbb{Z}\}.$$

Now $\mathrm{Int}(\mathbb{Z})$, lying between $\mathbb{Z}[x]$ and $\mathbb{Q}[x]$, behaves like a polynomial ring over a field in some respects (interpolation, for instance, and Nullstellensatz properties), and like $\mathbb{Z}[x]$ in others (for instance, Krull dimension).

We show that, with respect to the stable rank, $\mathrm{Int}(\mathbb{Z})$ behaves like $\mathbb{Q}[x]$, namely, s.r.$(\mathrm{Int}(\mathbb{Z})) = 2$. (Received September 12, 2020)