Definition: A **hammock** is a finite translation quiver with a unique source ω and with an additive function h (the hammock function) such that

(i) $h(p) = 1$ for any projective vertex p, and

(ii) $h(q) \geq \sum_{q \to y} h(y)$ for any injective vertex q.

Note: The opposite of a hammock is a hammock with the same hammock function

Typical examples: Let A be representation-directed, and S be simple with projective cover $P(S)$. Then

$$\Gamma(S)_0 = \{N \mid [N : S] \neq 0\}$$

yields a hammock $h = h_p$ with hammock function $[M : S]$.

If $E = \mathrm{End}(M)$ denotes the Auslander algebra of A, then $\Gamma(S)$ depicts the indecomposable projective-injective E-module $\mathrm{Hom}(P(S), M)$.

(1) Brenner (1986): A finite directed translation quiver is the Auslander-Reiten quiver of a representation-finite algebra if and only if any projective vertex p yields a hammock ending in $\nu(p)$.

(2) Butler (1981): Let A be representation finite. Then additive functions on $\Gamma(A)$ are additive functions on the Grothendieck group, and evaluation yields a group isomorphism

$$e : \text{add-f}(\Gamma) \longrightarrow \mathrm{Hom}(K_0(A), \mathbb{Z}).$$

Under this bijection, the hammock functions h_S for the simple module S form the dual basis to the basis $[S]$ of $K_0(A)$ given by the simple modules.

(3) R-Vossieck (1987) There is a bijection between the hammocks H and the subspace-finite posets X, where

$$H \mapsto \{p \in H_0 \mid p \neq \omega \text{ projective}\}, \quad \text{and} \quad X \mapsto L(X, k),$$

with $L(X, k)$ the Auslander-Reiten quiver of the subspace category for X and k.